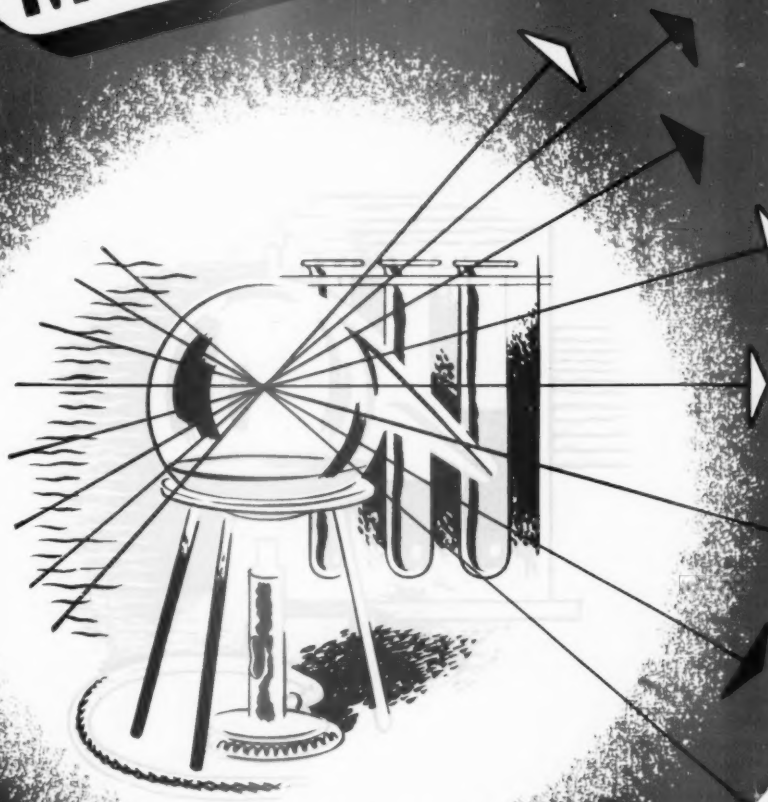
JANUARY, 1951
50 Cents a Copy

Better FARMING METHODS



Fumigants

Fungicides

Insecticides

Herbicides

Defoliants

Hormones

Fertilizers

Disinfectants

AGRICULTURAL CHEMICALS ISSUE

Published Exclusively for: County Agents, Vo-Ag Teachers, Extension Specialists, Soil Conservationists and other Agricultural Leaders

Successful!

IN 9* OUT OF 10 CASES OF MASTITIS

Be *sure* when you treat mastitis! Use Squibb Penicillin Ointment—the ointment which has effected a high percentage of recoveries in treating *millions of cases of mastitis** over the past two years.

These are the reasons for the success of this penicillin ointment:

- Thorough dispersion throughout entire treated quarter, reaching the infection no matter where it may be in the quarter.
- Attacks mastitis* organisms over a period of from 48 to 72 hours—without interfering with regular milking.
- Usually, only one tube is necessary for successful treatment.
- Stops milk check losses by getting infected cows quickly back to full production of salable milk.
- Stable, non-toxic, non-irritating.
- Clear ointment—won't discolor milk.
- Easy to use. Improved tip on "Instant-Use" tube inserts easily into teat. Ointment flows readily from tube into infected quarter. Treatment is a matter of seconds. No syringe required.

Tell your dairy farmer friends about Squibb Penicillin Ointment. Tell them to keep this proved ointment always on hand in the barn ready for instant use. Write for folder on mastitis. E. R. Squibb & Sons, Veterinary & Animal Feeding Products Division, Dept. B.F.M.-1 745 Fifth Avenue, New York, N. Y.

For accurate diagnosis, consult your Veterinarian.

*due to *Streptococcus agalactiae*, the cause of the largest percentage of all mastitis cases.

The reason is:

THOROUGH PENICILLIN DISPERSION

with prolonged action up to 72 hours!

Note, in the cross-section photograph above, how Squibb Ointment disperses penicillin throughout a treated quarter. One tube of Squibb Ointment, containing a dye instead of penicillin, was instilled into one quarter of a cow's udder. The cow was killed 17 hours later—the udder removed and frozen—and the photograph taken.

SQUIBB - A NAME YOU CAN TRUST

When writing advertisers please mention *Better Farming Methods*

Look ahead to healthy crops

WITH THESE FREE BOOKS ON INSECT CONTROL...

Healthy fields mean profitable yields! One good way to get the most out of seed and labor is through a sound program of insect control with toxaphene insecticides. Approved by the U.S.D.A. for grasshoppers, and by leading cotton-growing states for the control of all important cotton pests, low-cost toxaphene dusts and sprays are also being used effectively against an increasing variety of insects that attack other crops. This collection of books on insect control includes detailed recommendations on specific insects and a summary of latest federal or state recommendations. Write today for your free copies.

toxaphene

DUSTS SPRAYS

HERCULES POWDER COMPANY
INCORPORATED
905 King Street, Wilmington, Delaware

MAKERS OF TECHNICAL TOXAPHENE FOR AGRICULTURAL INSECTICIDES

NX50-90

Better Farming Methods, Vol. 23, No. 1, January 1951, published monthly at Mount Morris, Illinois. Subscription rates: One year, $2. Acceptance under Section 44.64 P. L. & R.† authorized.

Better FARMING METHODS

Published Exclusively for COUNTY AGENTS VO-AG TEACHERS EXTENSION SPECIALISTS SOIL CONSERVATIONISTS AND AGRICULTURAL LEADERS

Trade Mark 519,998 Reg. U.S. Pat. Off.

Established 1928—Subscription $2.00 per year.

Member Controlled Circulation Audit.

WATT PUBLISHING CO., MOUNT MORRIS, ILL.

Vol. 23 **January, 1951** No. 1

Publication Staff

J. W. Watt.....Chairman of the Board
Leslie A. Watt.....President and Publisher
O. A. Hanke.....Vice Pres. and Editorial Director
J. H. Florea.....Assistant Editorial Director
Herbert L. Schaller.....Editor
Ray A. Turner.....Advisory Editor
4-H Club Specialist, Federal Extension Service U. S. Dept. of Agr., Washington, D. C.
D. M. Sweet.....Advertising Director
Max Buell.....Advertising Manager
Martin DeKoning.....Circulation Manager
Mark Crawford.....Production Manager
Hugh Thompson.....Eastern Advertising Manager
Watt Publishing Company, 347 Madison Avenue, New York 17, N. Y., Phone Murray Hill 3-1492.
H. K. Marcott.....Western Advertising Manager
Watt Publishing Co., P. O. Box 521, Palo Alto, Calif., Phone Devenport 3-5889.
Peck and Billingsley.....Advertising Representatives
185 N. Wabash Avenue, Chicago 1, Ill. Phone Central 6-0465.
McDonald-Thompson.....Advertising Representatives
625 Market St., San Francisco 5, Calif., Phone Yukon 6-0647.
3727 W. Sixth St., Los Angeles 5, Calif., Phone Dunkirk 7-5391.
Terminal Sales Bldg., Seattle 1, Wash., Phone Main 3860.
1118 Odeans Drive, Dallas 11, Tex. Phone Winfield 4911.
115 S. W. 4th Ave., Portland 4, Ore. Phone Atwater 7401.
317 Railway Exchange Bldg., Denver 2, Colo. Phone Main 2733.

CCA NBP

Published monthly on the 1st of the month by Watt Publishing Co., Mount Morris, Ill. COMPANION PUBLICATIONS owned and published by the Watt Publishing Co.: Poultry Tribune, Hatchery and Feed, Turkey World, Pacific Poultryman, Broiler Growing.

All right reserved. Reproduction of any editorial matter is forbidden, except by special request.

Subscription price: United States, $2.00 a year, $3.00 two years; Canada and Foreign, $2.50 a year, $4.00 two years. All single copies 20 cents each. All subscriptions start with current issue. Make all remittances payable to BETTER FARMING METHODS. If you change your address, notify us direct and give both your old and new address when sending notification of change. Always state whether your subscription is new or renewal; please renew by the same name and initials. Printed in U.S.A.

Business Magazine for Leaders Who Train and Advise Farmers

In This Issue

National County Agents Convention.....6
Washington News.....Fred Bailey and Jay Richter 8
Chemicals Will Kill Mesquite.....C. E. Fisher and D. W. Young 11
Fertilize With Nitrogen.....C. J. Chapman 12
New Chemicals for Defoliation.....Lou Childers 14
New Developments in Ag Chemicals.....Donald E. H. Frear 15
Safety Comes First When Handling Ag Chemicals.....Don Lerch 15
National Vo-Ag Teachers Convention.....16
Ag Chemicals Directory.....18
Personals.....28
Sprayers, Dusters and Seed Treating Equipment.....70
Coming Events.....74
County Club Agents Convention.....George Hall 75
Helpful Booklets.....78
4-H Club Congress.....Milton R. Dunk 79
For What It's Worth . . ..Herbert L. Schaller 82

ADVERTISERS' INDEX

Allis-Chalmers Mfg. Co.....5
American Cyanamid.....44
American Dry Milk Inst.....62
American Jersey Cattle Club.....67
American Milking Shorthorn.....63
Arvey Corporation.....65

Bean Mfg. Co., John.....72
Bernard Machine Works.....69
Bostrom-Brady Mfg. Co.....61
Briggs & Stratton Corp.....64
Brillion Iron Works.....70
Brown-Forman Feed Division.....13
Buffalo Turbine & Ag. Eq. Co.....71

Calif. Spray-Chem. Co.....37
Celotex Corporation.....10
Columbian Vise & Mfg. Co.....68

Da-Lite Screen Co.....8
d-Con Company.....33
Dearborn Motors Corporation.....55
Deere & Company, John.....23

Engine Parts Mfg. Co.....68

Fox River Tractor Company.....84

Gehl Brothers Mfg. Co.....65
General Chemical Division.....27
Gulf Oil Corporation.....48

Hale Fire Pump Co.....63, 71
Hales & Hunter.....61
Hampshire Swine Registry.....65
Hanson Chemical Company.....66
Hercules Powder Company.....3
Hudson Mfg. Co., H. D.....73
Hy-Line Poultry Farms.....33

Intl. Minerals & Chemicals.....30

James Mfg. Co.....47
Johns-Manville Corp.....17
Julius Hyman Company.....7

LaMotte Chemical Products.....69
Dr. LeGear Medicine Company.....69

Marlow Pumps.....74
Mathieson Corporation.....53
Merck & Co., Inc.....31
Michigan Chemical Co.....60
Myers Bros. Mfg. Co., F. E.....66
Minneapolis-Moline.....83
Monsanto Chemical Co.....35

National Ag. Supply Co.....64
National Band & Tag Co.....62
National Farm Book Co.....68
New Idea Farm Equipment Co.....9
Norris Cattle Company.....64
North Dakota State Seed Dept.....67

Oliver Corporation.....45

Pacific Coast Borax Co.....20
Phelps-Dodge Refining Corp.....28
Porter Company, H. K.....32
Poultry Tribune.....58

Rainbird Sprinkler Mfg. Co.....64
Ruberoid Company.....77

Schwartz Mfg. Co.....54
Scott Farm Seed Company.....33
Seedburo Equip. Co.....32
Shell Chemical Corp.....49, 51
Sinclair Refining Co.....76
Sisalkraft Corp.....63
Spencer Chemical Co.....50
Squibb, E. R.....2
Standard Brands, Inc.....29
Sterling Research Corp.....62
Stone Mt. Grit Co.....57
Stoody Company.....10
Swift & Company (Research).....21
Swift & Company (Plant Food).....56

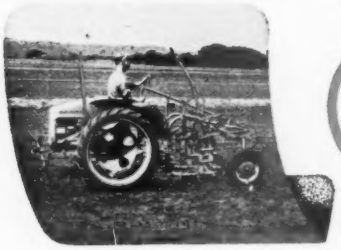
Tennessee Corporation.....22
Testa Mfg. Co.....69
Thompson-Hayward Chem. Corp.....39
Tobacco By-Products Chem. Corp.....32

U. S. Industrial Chemicals.....42, 43
U. S. Rubber Company.....52

Velsicol Corporation.....41

Wisconsin Motor Corporation.....61

When writing advertisers please mention *Better Farming Methods*



IT'S ONE·TWO·Go!

TO BETTER LIVING
BETTER FARMING
AND MORE PROFIT

Though rarely in the spotlight, tillage tools in recent years have matched the progress of tractors. A plow is still a plow, but new ideas have improved almost everything but its name.

Farmers who buy new Allis-Chalmers tillage tools in 1951 will benefit from improvements and advantages unknown even ten years ago. A universal feature of all these A-C tools is uniformly deep penetration without heavy weighting or forced pressure.

Tractor and Tools — a Quick-Hitch Team:

***ONE** — space the Model CA or WD tractor wheels instantly with engine power to fit the implement.*

***TWO** — attach the tool quicker than you can hitch up a team.*

***GO** — with Hydraulic Power Control at your command for new, outstanding field performance.*

The new master line of Allis-Chalmers tools includes mounted, semi-mounted, and trailed types . . . hydraulically or mechanically operated . . . in many sizes, styles and combinations. All are "Quick-Hitch" implements, with a full range of adjustments to assure quality work. Construction is strong and durable. You will find them moderately priced. For every kind of crop and soil, Allis-Chalmers implements assure uniformly better tillage.

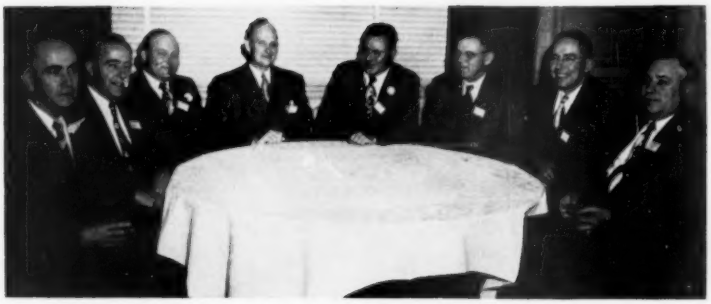
with Quick-Hitch TILLAGE TOOLS

Tractor Mounted Plows • Pull-Type Plows • Mounted Disc Plows • Tiller Disc Plows • Bedders • Listers • Furrowers • Subsoilers • Chisels • Ridgers • Bedding Discs • Disc Harrows • Field Cultivators • Row-Crop Cultivators • Vegetable Cultivators

BETTER TILLAGE TOOLS FOR BETTER FARMING

Listen to the National Farm and Home Hour Every Saturday — NBC Network.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.



The men above will direct the National Association of County Agricultural Agents during 1951. Left to right, W. R. Lominick, Vicksburg, Miss., director; E. W. Holden, Concord, N. H., director; Sherman Hoar, Sterling, Colo. vice president; Edwin Bay, Springfield, Ill., president; Rex Carter, Uniontown, Pa., past president; J. I. Wagoner, Greensboro, N. C., secretary-treasurer; LeRoy C. Wright, Baker, Ore., director; and Craig R. Montgomery, Cavalier, N. D., director. The new president was featured on the December cover.

Florida boys made snowballs at the convention. E. N. Stephens, Pensacola, Fla., is about to throw snow in the face of A. S. Lawton, Jacksonville. F. Baetzman, Orlando, looks on.

Thirty-Fifth Annual . . .

National County Agents Convention

Food and drink didn't have a chance at the annual smoker. It was consumed also as fast as it was placed on the table. Here a line of thirsty county agents is waiting for the punch bowl to be refilled, nibbling cheese crackers and tidbits while they wait.

● FROM THE STANDPOINT of the weather, it was a cold and blustery National County Agents Convention. Heavy snow storms in the east kept many county agents from attending the 35th Annual Convention, held at the Edgewater Beach Hotel, Chicago, November 27-29.

The agricultural tour of DeKalb county, Illinois, Sunday, November 26, was cancelled due to the inclement weather.

Approximately 450 county agents and their wives attended the convention. This was not quite as large as the attendance at last year's record breaking convention, held at Denver, Colorado.

The convention began in earnest on Monday. The opening session was presided over by President R. E. Carter, Uniontown, Pa.

The annual banquet was held in the evening. The association recognized 113 county agricultural agents from 37 states and presented them with distinguished service certificates. Presentation was made by Horace Abbott, Indianapolis, Ind.

Highlights of the annual banquet were music by the Frank Bennett singers, Chicago, and an extremely interesting and entertaining address by Prof. J. G. Hays, extension specialist, Michigan State College.

As usual, county agents jammed the ballroom at the Edgewater Beach Hotel for the annual smoker. Wayne King and his orchestra provided entertainment, appearing through the courtesy of Standard Oil Company.

County Agent W. N. Cook, Muskogee, Okla., won a Victor 16mm projector, given as a prize by the Victor Animatograph Corp.

The 1951 convention site for the county agents will be Memphis, Tennessee. It will be held Oct. 29-Nov. 1. From advance information, county agents will be extended the ultimate in hospitality.

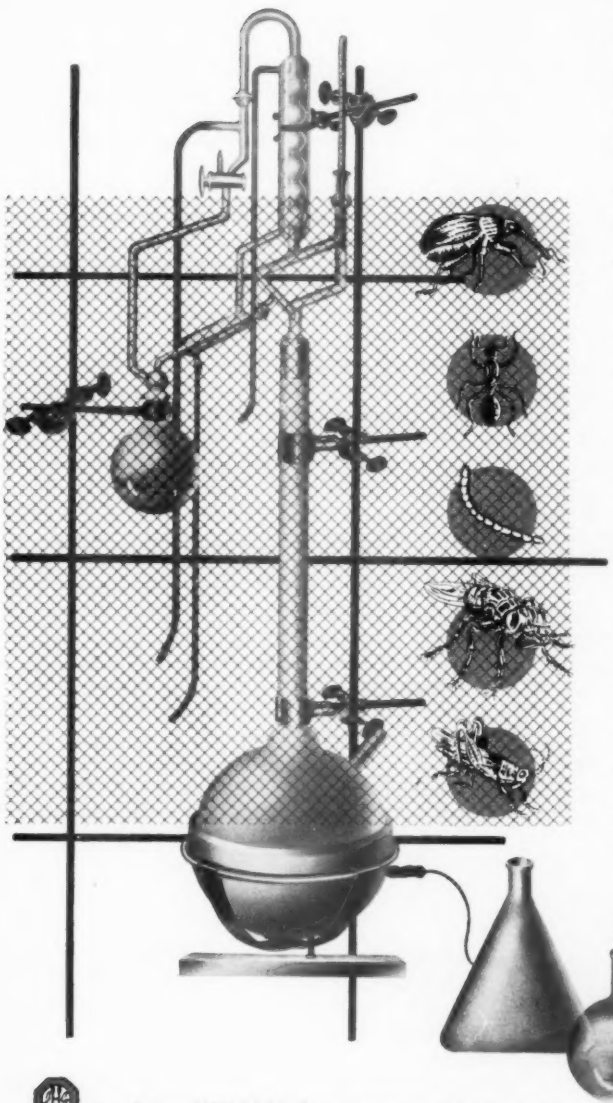
The newly-elected officers got together with a few of the Wayne King stars after the smoker Tuesday night. Left to right, Rex Carter, past president; Sherman Hoar, vice president; Ed Bay, president; and J. I. Wagoner, secretary-treasurer, are pictured with three featured singers of the Wayne King band. The maestro is at the right.

The Kansas delegation had cold cider at the convention for the enjoyment of all attending. Front, left to right, is C. E. Lyness, Troy, Kans.; Cletus F. Murphy, Waseca, Minn.; and George M. Gehant, Clarksfield, Minn., all county agents. Serving cider in the rear are Wilbur White, Elkhart, Kans., left, and William McKnight, Seneca, Kans.

Out of the Hyman laboratories...

ALDRIN-DIELDRIN

Chemicals for Agriculture



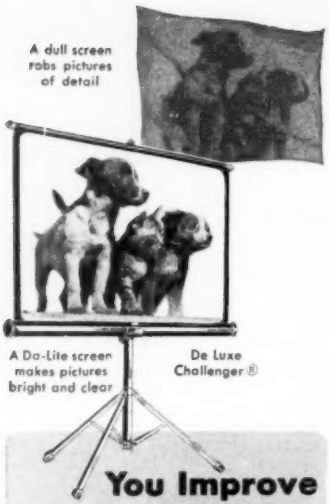
• The Research Laboratories of Julius Hyman & Company have earned a reputation for the originality and effectiveness of their contributions to the control of many serious insect problems confronting the farmer. ALDRIN and DIELDRIN, two products of the Hyman Laboratories, represent great strides forward in insect control chemicals.

• In the first 4 months of commercial production, more than 2,000,000 pounds of ALDRIN were manufactured and sold for control of grasshoppers, boll weevil and certain other cotton pests. In 1951 this remarkable record will be surpassed many times, and it is anticipated both ALDRIN and DIELDRIN will be granted official acceptance for control of a wider range of destructive insects. Incredibly small dosages—incredibly effective performance, make ALDRIN and DIELDRIN truly outstanding insect toxicants.

• Unformulated ALDRIN and DIELDRIN are distributed nationally by Shell Chemical Corporation. Write us for ALDRIN and DIELDRIN circulars.

Julius **HYMAN** *& Company*
DENVER, COLORADO

Look to HYMAN for tomorrow's important chemical developments—today.



You Improve
ALL THREE
• BRILLIANCE
• DETAIL
• CONTRAST

when you change to
DA-LITE®
CRYSTAL-BEADED
SCREENS

If your screens are streaked, yellow with age, or do not hang smooth, your pictures will be dull, blurred and distorted. To insure perfect theatre-quality projection, change to Da-Lite Crystal-Beaded Screens! They can make every scene 200 to 500% brighter, clearer and richer in detail. They are made by the same company that has been making screens for the finest theatres since 1909. Compare! You will choose DA-LITE for better pictures and longer, more dependable service.

Your Dealer Has Da-Lite Screens for Every Need

Write for FREE sample of Da-Lite Crystal-Beaded screen fabric and 6-page brochure "Planning for Effective Projection" which answers many questions on projection.

DA-LITE SCREEN COMPANY, Inc.
2749 N. Pulaski Road
Chicago 39, Illinois
Please send FREE sample of Da-Lite Crystal-Beaded screen fabric and 6-page brochure "Planning for Effective Projection."

Name.....
Address.....
City ..... Zone ..... State .....

WASHINGTON NEWS

By FRED BAILEY and JAY RICHTER

GRANGE POLICIES TO REMAIN SAME—The farm organization line-up on major policies will change but little as a result of election of Herschel D. Newsom as Master of the National Grange, succeeding the late Albert S. Goss. Newsom, like Goss, is classified as a moderate conservative on farm and national policies.

Newsom is a 45-year-old robust operator of a 470-acre Southern Indiana farm and a firm believer in maximum self-reliance of farmers. He dislikes government controls and subsidies as a permanent method of dealing with farm problems. His views closely parallel the policies which the Grange has followed for many years.

As Master of the Indiana State Grange since 1937 and chairman of the National Grange Executive Committee, Newsom has taken an active part in formulating Grange policies. He is a graduate of the Uuniversity of Indiana, in chemistry, and a board member of several civic, cooperative, and fraternal groups.

Salient points of Grange policy adopted at the November annual convention of the Grange in Minneapolis are:

Strong support of a 10-point national defense program including rebuilding of military strength through conscription, but not universal military training; higher taxes to finance war costs and combat inflation; rationing, price and wage controls if needed to prevent inflation.

A two-price system with full parity for that portion consumed domestically; price supports which give equitable treatment to all commodities; maximum farmer independence in management of his farm; use of self-help measures ahead of government assistance.

Expansion of SCS as an independent and separate governmental agency within USDA responsible for developing and integrating a technically and economically sound soil conservation program, working with other State and Federal agencies.

Expanded FHA assistance, with proper safeguards, to encourage and strengthen family-size farming.

Placing of the forests and range management service in USDA and reorganization of USDA - Interior Department functions to eliminate duplications.

Vigorous continuation of efforts to secure Federal legislation to make Extension Service financially independent of any farm organization and wholly dependent upon public funds.

Federal aid for education in elementary and secondary schools, provided that aid be used to equalize educational opportunity and that administration be by local and State officials.

CONGRESS TO CONTINUE PRESENT FARM PROGRAM—The new Congress, unless war developments force a change in plans, will make no major changes in present farm laws. Farm leaders on Capitol Hill say they are satisfied that the present program is both basically sound and adequate for the defense emergency.

Agriculture officials expect pressure from several commodity groups for a re-enactment of the Steagall Amendment which provided support assurances during World War II for about 32 commodities, many of them

When writing advertisers please mention *Better Farming Methods*

perishables. They doubt, though, that Congress will make supports on perishables mandatory.

Secretary Brannan has indicated he will not put price props under many perishables, unless ordered by Congress to do so. Congress withdrew supports on potatoes and Brannan dropped egg price supports for 1951. USDA insists that if Congress wants supports under perishables it will have to assume responsibility for any losses to the Treasury.

The Senate and House agriculture committees are expected, however, to watch out for farm interests when bills involving ceilings, rationing, and allocations of farm supplies come up through other committees. Farm leaders will oppose any effort to establish ceilings below parity.

FERTILIZER, OTHER FARM SUPPLIES TO BE SHORT—The lack of adequate supplies, including fertilizer, pesticides, machinery, building materials and labor, probably will give many farmers headaches this year. The Agriculture Department already is appealing to other agencies for sufficient supplies to assure maximum food and fiber production.

A survey of prospective supplies indicates that, unless upset by strikes or war demand, fertilizer will be available in about the same quantity as in 1950, when farmers used a record 18 million tons. Demand, however, will exceed supplies as farmers seek to increase production. Probable transportation difficulties next spring make it advisable for farmers to order their 1951 fertilizer as soon as possible.

The supply of pesticides will be adequate only if 1951 is an average or less "insect year," the agricultural chemical manufacturers report. Even then there may be some shortages of newer materials requiring chlorine and benzene, both of which are in short supply. Users are being urged to place their orders now.

Less new farm machinery will be available, but officials think there will be no severe hardship resulting from inadequate supplies. The Agriculture Department is concentrating on getting enough parts to keep present machines in operation. The supply of farm labor will depend in part on how deeply the draft cuts into the number of workers now on farms, but officials think many farmers will have trouble getting help when they need it.

FAMILY FARM TO BE STRESSED—In the future you will be hearing more about the family farm and less from Washington about the Brannan Plan. Secretary Brannan intends to stress his program for family farming and family farm ownership as the basis for a sound, democratic farm program.

Soil Building Increasing Livestock Up-Grading the Diet

These are the seven magic words which have sparked a crusade the length and breadth of agricultural America.

They express the basic doctrines of a new and broader concept of farming *and living*. Known as "Animal Agriculture," it forms the basis for a national farm and food program designed to build the fertility of our farms, and give to America and the world a new measure of freedom and abundance.

No greater tribute can be paid the late H. E. Babcock, father of the idea, than the present wide adoption of this program which he so vigorously and successfully advanced.

Next April a National Animal Agriculture Institute meeting will be held at Purdue University to train selected leaders in a complete understanding of this far reaching idea; also ways and means will be developed to follow through with this nationally important program in the months and years ahead.

As one of the divisions of the AVCO Manufacturing Corporation, we are happy to sponsor this dynamic idea initiated by our former associate, Ed Babcock. And we take pride in the fact that our adoption of this three-pointed Animal Agriculture program dates back to the time of its inception.

NEW IDEA

DIVISION AVCO MANUFACTURING CORPORATION

Coldwater, Ohio

A new and valuable service

YOU can extend to every farmer!

When steel shortages occur, all industry finds replacement parts hard to get. The farmer is no exception. But you can help him by taking a single step NOW!

STOODY COMPANY has just published a new revised edition of the FARM HARD-FACING HANDBOOK. It tells how to make practically every implement in common use last from 2 to 10 times longer by STOODY HARD-FACING. This is the process used by all industry during the last war, *the process that kept equipment in operation when spare parts were unobtainable!*

YOU CAN HELP YOUR FARMERS by getting acquainted now with Stoody Hard-Facing and what it will do. You will then be able to discuss hard-facing intelligently and factually. The process is simple and relatively inexpensive. It can be performed by any welder having oxy-acetylene equipment.

A complete working knowledge of farm hard-facing is contained in the STOODY FARM HARD-FACING HANDBOOK. It describes the various Stoody Alloys, proper torch adjustments and complete application procedures for all tools listed.

We want you to have this valuable handbook free! It will not only enable you to advise each farmer about hard-facing, it will also give you a *new* and *interesting* subject to discuss on your many calls!

STOODY COMPANY

11965 East Slauson Avenue, Whittier, California

Ask for your copy of the STOODY FARM HARD-FACING HANDBOOK. There is no charge. Use the handy coupon below for greater convenience, but write today!

STOODY COMPANY, 11965 E. Slauson Ave., Whittier, Calif.

Please send me your STOODY FARM HARD-FACING HANDBOOK.

Name_____

Address_____

City_____ State_____

When writing advertisers please mention *Better Farming Methods*

BEFORE
Grassland was cleared of mesquite.

Chemicals Will Kill Mesquite

AFTER
Grassland was cleared of mesquite.

Southwest Ranchers Know Proper Mesquite Control Will Increase Beef Gains

By C. E. FISHER and D. W. YOUNG
Texas Agricultural Experiment Station

● CONTROL OF MESQUITE on native grassland is one of the major problems of livestock raisers and ranchmen in Texas and the southwest. It greatly handicaps handling of livestock, often prevents use of valuable range practices and usually seriously reduces the carrying capacity of the grassland. In addition the ever spreading mesquite is a costly item in the maintenance of right-of-ways of power lines, pipe lines, and other utilities.

On extensive areas of range and pasturelands the control of mesquite is extremely difficult. For the most part only limited expense may be incurred. Then, too, rapid reinfestation by seedlings and sprouts on cleared areas makes it all the more difficult.

Large numbers of viable seed are disseminated by grazing animals, coyotes, rabbits, and rodents. These seeds germinate over long periods of time.

Furthermore, different control methods must be used due to the great variation in: (1) growth forms of mesquite ranging from dense thickets of many stemmed brushy plants to open stands of large single stemmed trees; (2) size of the area to be cleared; (3) soil and climatic conditions; (4) presence of other shrubs; and (5) hazards of the methods of control to livestock and other crops.

Seek Methods of Control

Research work at the Texas Agricultural Experiment Station in cooperation with the Bureau of Plant Industry and the Soil Conservaton Service has been underway since 1938 to find a cheaper and more effective method of controlling mesquite.

It was found that effective control of mesquite was obtained when the methods used either destroyed or inhibited the dormant sprout buds on the underground stem. These buds occur from three to eight inches below ground level. They will develop new sprout growth rapidly if the top growth is destroyed by fire, frost, mechanically, or by other means. Frequently the most undesirable growth forms of mesquite are a result of repeated top kills by methods that failed to destroy the sprout buds.

These early stages of research work by ranchmen and others soon made several points clear. A method of control would need to be developed that would be reasonably effective. It should not be hazardous to livestock and desirable range plants. It should be easily adapted to different growth forms on large scale areas, and low enough in cost to permit retreatment to control regrowth and seedlings.

Chemicals seemed to hold the most promise for the development of a new method. Since 1941 a wide range of chemicals have been tested on many thousands of plants at different stages of growth.

The following results comprise the latest information known for the control of mesquite.

How to Control Thin Stands

Experience has shown that individual tree treatment is well adapted to the control of widely scattered mesquite and for small odd areas where other methods of control are not feasible.

Single to few stemmed trees growing on open porous soils may be destroyed at a low cost by pouring one or two quarts of kerosene or diesel fuel around

(*Continued on page* 64)

Spraying dense stands of mesquite by airplane has given good control at a relatively low cost. More ranchers are using this method.

Individual mesquite bushes may be effectively removed by power grubbing. This method of eradication is effective but rather costly.

Ammonium nitrate made the difference in this field of oats. Notice the difference in length of straw. Production on the fertilized acreage was 30 bushels more per acre.

To Increase Crop Production . . .

Fertilize With Nitrogen

By C. J. CHAPMAN
Soils Department,
University of Wisconsin

● ONE OF THE GREATEST opportunities for increased production of food and fibre on American farms lies in the use of nitrogen fertilizers.

Nitrogen for more grass! Nitrogen for more grain; Nitrogen for more corn! Nitrogen for bigger crops of almost everything the farmer grows!

But in the same breath, let's build our long time crop production program on the solid foundation of lime, phosphate, and potash. We must use a program of good crop and soil management with longer rotations, including more legumes in these rotations.

There are millions of acres of land throughout the country that are producing only a half a crop. That is largely because they are short on nitrogen and organic matter.

During the past 40 or 50 years, the ultimate goal toward the maintenance of adequate supplies of nitrogen for all crops on livestock farms in the middle-west has centered around the applications of lime, phosphate and potash fertilizers, and the growing of legumes.

Ideas On Nitrogen Change

For many years agronomists in the middle-west were completely committed to the idea that the growing of legumes on our farms was the one and only means of maintaining adequate supplies of nitrogen. It is true that this program has done much to maintain the high levels of production on farms in the middle-west.

Wisconsin farmers have applied better than 20 million tons of lime and over 3 million tons of commercial plant foods in the last 15 years. They harvested over 1¾ million acres of alfalfa in 1950.

Clover has become a more dependable and abundant crop, but the average yields of corn and grain are still far short of what they should be. Corn yields over the past 10 years in Wisconsin have averaged about 42 bushels per acre; average yields of oats about 41.

Over the countryside this past summer, there were thousands of acres of grain that were producing only a half a crop. Thousands of acres of corn were yellow and starving for nitrogen. Literally millions of acres of pasture provided nothing more than good exercising grounds for cattle.

Use Nitrogen Fertilizer

Even in this great livestock state of Wisconsin where years ago it was said that lime and manure was all we needed to maintain high production levels of clover, alfalfa, and other crops, we now witness a most widespread lack of nitrogen.

However, in more recent years it has been gradually dawning on us that we have been mining our soils of their lime, phosphate, and potash. These vital elements have been drained off in the sale of milk, livestock and livestock products.

There is a tremendous opportunity for raising the crop production and organic matter levels through the use of nitrogen fertilizer. The fertilizing of go-down crops such as rye and grasses with nitrogen will increase tremendously the organic matter which can be plowed under. This will give new life to our worn and depleted soils. More nitrogen on our grain and corn will make more straw and fodder. More extensive root systems will add to the organic matter supply, too.

Grain Will Benefit

From 75 to 100 lbs. of ammonium nitrate or its equivalent in other nitrogen fertilizer is recommended as a supplementary treatment for spring seeded grain. There is little danger of lodging with the new stiff-strawed varieties of oats, such as Clinton, Bonda, Andrew, and Shelby.

Then, too, we have built up the level of minerals in our soils through the application of millions of tons of lime and hundreds of thousands of tons of phosphate

(*Continued on page* 66)

Corn responds to nitrogen, too. Nitrogen was here used as a side dressing at the rate of 300 pounds per acre. Silage yield was increased by 4½ tons per acre.

"Beacon's Pride", Fed SUPERSOL, *Choice of Foremost Feeders* Wins Grand Championship!

November 18, 1950

Mr. Wallace Campbell, Mgr.
Brown-Forman Experimental Farm
Frankfort, Kentucky

Dear Mr. Campbell:

I know that you will be interested in some figures in regard to my feeding of the Shorthorn calf which recently was chosen Grand Champion of the Louisville Fat Cattle Show. He weighed 484 at the time of starting to feed for the show, and when he was sold he weighed 1,075 lbs. From the time that I showed him at the Kentucky State until he was shown at Louisville, he made a daily gain of 3.05 lbs. per day. My total feed cost was $130.00 for the entire feeding period.

My ration consisted of cracked corn, rolled oats, bran, barley and wheat. The barley was fed cracked until about the middle of August. At that time I started cooking barley and mixed some wheat with it. Of course I fed SuperSol from start to finish.

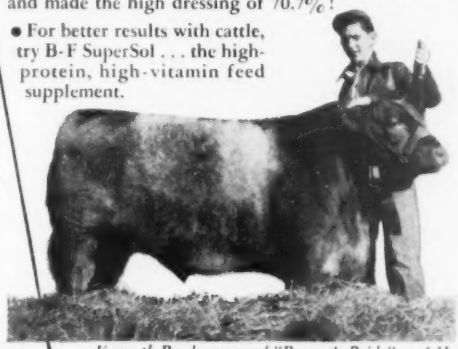
I was very happy to know that "Beacon's Pride" made the high dressing per cent of 70.7. And as you already know, he sold for $8.00 per pound, netting me $8,600.00.

Sincerely,
Kenneth Reed
Kenneth Reed

Louisville Fat Cattle Show's Top Award Goes to 4-H Clubber Kenneth Reed

Even foremost feeders in the *younger* generation . . . like Kenneth Reed, of Woodford County, Kentucky . . . have found that fitting cattle for shows and sales is simpler and more certain when the fitting ration includes B-F SuperSol. Kenneth's Grand Champion Shorthorn "Beacon's Pride" gained 3.05 lbs. per day and made the high dressing of 70.7%!

- For better results with cattle, try B-F SuperSol . . . the high-protein, high-vitamin feed supplement.



Kenneth Reed, owner of "Beacon's Pride" . . . 4-H Shorthorn Champion and Grand Champion . . . Louisville Fat Cattle Show, November 16, 1950.

Available in pellet or granular form.

FREE!

This booklet tells what SUPERSOL will do for your livestock!

Write

FEED DIVISION
BROWN-FORMAN
DISTILLERS CORPORATION
at
LOUISVILLE IN KENTUCKY

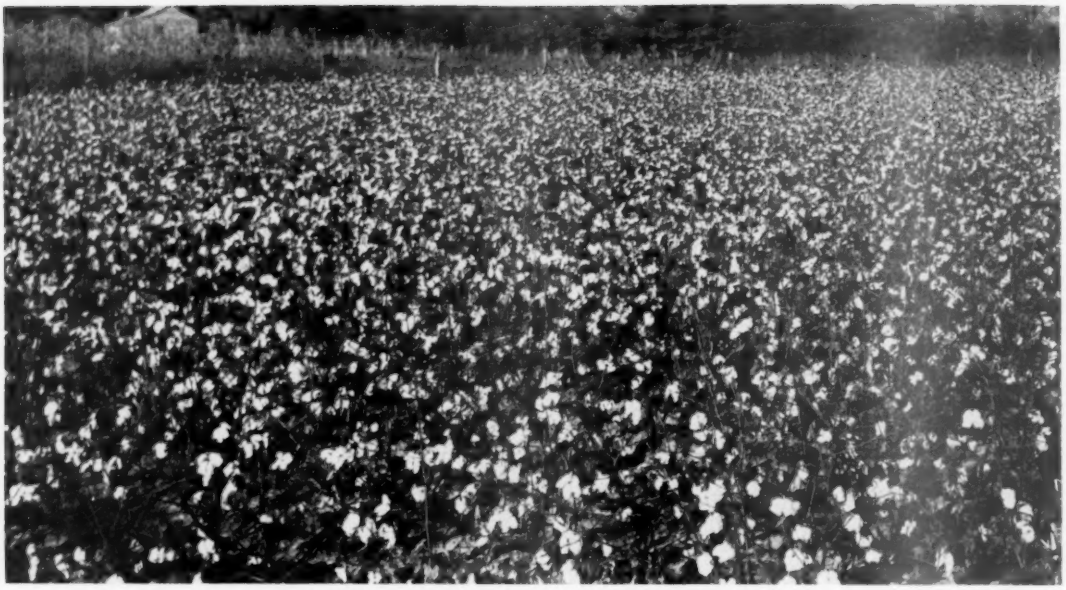
PROVIDES

true VITAMIN A
VITAMIN D

B-GROUP VITAMINS
RIBOFLAVIN, THIAMIN NIACIN, CHOLINE, PYRIDOXINE, PANTOTHENIC ACID, p-AMINOBENZOIC ACID BIOTIN, FOLIC ACID

FATS and PROTEINS
CALCIUM, PHOSPHOROUS
and ESSENTIAL TRACE MINERALS

plus VITAL PRODUCTIVE FACTORS



Field of defoliated cotton in the Mississippi Delta region ready for machine picking. These plants have been defoliated with calcium cyanamid. Note the absence of leaves and trash. This increases the efficiency of the mechanical picker.

Ag Leaders Should Know About . . .

New Chemicals for Defoliation

By LOU CHILDERS
United States Department of Agriculture

● EVERY YEAR BRINGS new changes in the techniques of chemical defoliation of cotton. The 1950 season was no different.

Rapid changes in this technique are probably to be expected for a number of years to come. Defoliation science is still young. Knowledge concerning the basic processes involved in the induced shedding of leaves is still expanding rapidly. So is our information on other phases of defoliation.

Various new chemicals, for example, are still under extensive test and others are being screened to determine their possible usefulness.

Development of spraying and dusting requirements relating to equipment as well as design and improvement of the machines themselves to do the application job are just getting well under way.

Despite the many unknowns, rapid advancements are being made. It should be remembered that while chemical defoliation is not a recent discovery, it has only been in the last 12 years that it has become a useful agricultural tool.

Fertilizing Caused Defoliation

Previous to 1938 scientists and farmers had observed that pulverized calcium cyanamide fertilizer being applied to cotton sometimes caused defoliation. This was especially true when it drifted onto leaves wet with dew. In that year research men in South Carolina, experimenting with this material and a dusting grade of the same chemical, found that complete defoliation could be obtained within 7 to 10 days, with rates as low as 10 pounds per acre.

Even so, this new knowledge was not put to immediate practical farm use. At that time there was no pressing need for the process of defoliation as an aid to mechanical harvesting.

It was the successful development of mechanical harvesters for cotton that really got defoliation started. Early in the use of these machines it became apparent that their successful use would depend in part on the elimination of the trash and leaf stain in machine-harvested cotton. Such trash tended to lower its grade and value.

Progress in use of defoliation by farmers has followed closely that of research. New practices were sometimes adopted before tests produced conclusive results.

At present, no one knows exactly the extent of the acreage on which defoliants are being used. Informed estimates indicate, however, that in California last fall around 25 percent of the crop was defoliated chemically. In Arizona, defoliants were probably used on that much or even more of the crop.

Nationally, the percentage probably amounted to 10 percent or more. In the West, applications are made almost entirely by airplane. In the East this method also predominates, with ground application expanding.

New Chemicals Developed

One of the recent developments is the advancement in new defoliating chemicals. Several other trends also were noted by research scientists on this work

(*Continued on page* 68)

Here Is A Summary of . . .

NEW Developments In Ag CHEMICALS

Research plays a valuable part in developing new chemicals for insect control. Both toxicity to insects, and to man and livestock is thoroughly tested. Here a girl is counting dead flies killed by coming in contact with an insecticide which is being tested.

When Handling Ag Chemicals . . .

SAFETY Comes First

By DON LERCH, *National Agricultural Chemicals Association*

● FEW DEVELOPMENTS in agriculture have received the tremendous acclaim given insecticides and related materials. Proper use of these materials has produced results that are little short of amazing.

For instance, 75 percent of this year's cotton production in Mississippi is attributed directly to the use of insecticides.

That these materials are essential has been further documented by 143 expert witnesses during the current residue tolerance hearings in Washington, D. C.

In the words of Fred C. Bishopp, Assistant Chief, Bureau of Entomology and Plant Quarantine, USDA: "If restrictions are placed against the use of some of the materials and inferior ones are substituted because they might be considered safer, the cost of production will increase materially. The consumer will be forced to pay more and the standard of living in this country will be lower."

This statement clearly outlines the problem facing the farmer, federal and state agencies, and the Industry.

Safety Is the Problem

The problem is safety, pertaining both to the man who applies the material and to the person who eats the resulting food product. Since farmers are both producers and consumers, they have an important stake in both phases of this problem.

Safety to the man who applies the materials depends largely upon his willingness to read and follow instructions printed on labels. To assure safe

(*Continued on page 77*)

By DONALD E. H. FREAR
Pennsylvania State College

● ALTHOUGH THERE HAVE been no particularly startling new discoveries in the agricultural chemicals field, our knowledge of a number of the newer materials has been considerably increased during the past year.

One of the new developments in the insecticide field during 1950 was the production of allethrin on a small commercial scale. Allethrin is the synthetic product closely resembling one of the active principles in natural pyrethrum, and is used for the same general purpose.

Although not as toxic to some insect species as natural pyrethrum extracts, allethrin probably will find considerable use in fly sprays and for the protection of stored grain against insect attacks. Since pyrethrum is not raised in this country, the commercial production of allethrin may make the insecticide industry less dependent upon foreign sources of supply.

Use of DDT Decreases

The development of strains of houseflies resistant to DDT, first noted a few years ago, has continued. For this reason, the use of DDT for fly control has decreased markedly during the year.

Lindane, the pure gamma isomer of benzene hexachloride, has proved to be very effective against flies. Large quantities were used during the past summer.

Methoxychlor, which is less toxic to animals than DDT, has also been widely used for fly control.

Because of the failure of DDT to control flies, there has been a considerable return to pyrethrum-base sprays for fly control. These have the decided advantage of being non-toxic to higher animals. Low- and high-pressure aerosol formulations at reasonable prices are now available for the control of flies and other insects.

The new organic phosphate insecticides have demonstrated their high toxicity to many species of agricultural insects. Parathion in particular was used extensively on fruit crops during the past season with excellent results. Through education the public has become aware of the dangers attending the use of parathion and the other organic phosphate pesticides. Extreme

(*Continued on page 76*)

Second Annual . . .

National Vo-Ag Teachers Convention

These are the men who will lead the Vo-Ag Teachers' Association during 1951. Back row, left to right, Regional Vice Presidents Melvin Taylor, California; J. R. Cuffman, Texas; Neil Johnston, Iowa; Max Lampo, Missouri; A. L. Hale, Arkansas; and Robert A. Wall, Virginia. Front row, left to right, Lionel Cross, executive secretary and past president, San Jose, Calif.; Parker Woodul, president, Portales, N. M.; Jess Smith, Lake Geneva, Wis., newly-elected president; and LeRoy Bunnell, Tremington, Utah, treasurer.

● MIAMI, FLORIDA, scene of the second annual National Vo-Ag Teachers Convention, November 27-December 1, shivered in freezing weather. Not even the enthusiasm of 98 delegates from 34 states could raise the temperature enough to make it comfortable without a coat.

Vo-ag teachers seemed positive of one thing—their association was growing day by day, both in size and in strength. Under strong leadership, it was rapidly establishing itself as a permanent association. Active members now total approximately 6,300.

A word of caution to the Association was voiced by President Woodul, "We are growing and are becoming established. Let us not flex our muscles too fast. Let us be certain our progress is on solid ground."

One of the highlights of the meeting was the agricultural tour through Dade county, Florida. Ag teachers were given an opportunity to visit citrus orchards and to see thousands of acres in truck crops.

In addition to their own meetings, vo-ag teachers attended the agricultural sessions of the American Vocational Association. The AVA Convention also was held during the same week. Ag teachers present at the AVA business meeting of the agricultural group voted in favor of a summer meeting for the AVA and the Vo-Ag Teachers Association for next year.

Elected president of the Vo-Ag Teachers Association was Jess Smith, Lake Geneva, Wis. Newly elected treasurer was LeRoy Bunnell, Tremington, Utah.

The site of next year's convention will be Minneapolis, Minnesota.

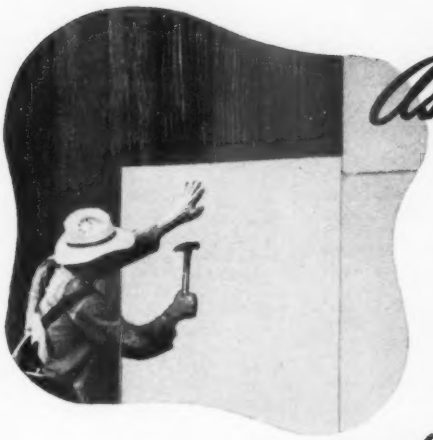
"What a lovely bunch of cocoanuts," exclaim two Illinois vo-ag teachers, F. M. Parkinson, Lena, left, and G. R. Brown, Lanark.

One of the highlights of the tour was a delicious chicken dinner. Vo-ag teacher N. E. Graham, Stamps, Ark, (front) and Jim Ewart, vo-ag instructor, Russville, Ark., can hardly wait to set their teeth in the fried chicken on their plate.

Much of the success of the Vo-Ag Teachers' Association is due to the hard work of its presidents. Pictured here, left to right, are Lionel Cross, San Jose, Calif.; Parker Woodul, Portales, N. M.; and Jess Smith, Lake Geneva, Wis. Cross and Woodul have served as presidents and Smith will lead the Association next year. For once Parker equalled and surpassed the heights of his associates. This was accomplished by standing on a chair.

Attending the Annual Vo-Ag Association Breakfast were, left to right, James Hamilton, Audubon, Iowa; John J. Harvey, Hedgesville, West Virginia; Don Grady, Essex Junction, Vermont; Quentin Hine, Somerset, Pennsylvania; and David Shontz, Sandy Lake, Pennsylvania.

For greater fire safety on the farm
...Johns-Manville Building Materials



Asbestos Flexboard*

STRONG AND TOUGH: Time-tested sheet material of asbestos and cement, can be used outdoors, indoors... is rodentproof, fireproof, sanitary. Saws and nails like wood, never needs preservative treatment. So flexible it can be used on curved surfaces.

Asbestos Shingles

—LAST 35 YEARS PLUS! Fireproof, rotproof, weatherproof. Thousands have already been in service 35 years. No signs they won't last another 35 years or more! New American Colonial design is the most beautiful ever developed. Easy to apply.

Super-Felt* Rock Wool

SUPERIOR INSULATION: Keeps farm building temperatures more uniform... helps produce more milk, more eggs, more weight per pound of feed. Easily installed, fits snugly, will not settle. And it's *fireproof* . . . you can't burn it even with a blow torch.

• • •

Other Johns-Manville building products for the farm include Smoothgrain Asbestos Siding Shingles, Insulating Board, Ceiling Panels and Wall Plank, Asphalt Shingles, Asphalt Roll Roofing, Roof Coatings and Putties. Write for our catalog of building materials. Johns-Manville, Farm Division, Box 290, New York 16, N. Y.

*Reg. U. S. Pat. Off.

JOHNS-MANVILLE JM PRODUCTS

Ag Chemicals Directory

DEFOLIANTS

Defoliants are used primarily on cotton prior to harvest, in order to eliminate mature leaves and hasten boll ripening. As the number of cotton harvesting machines increases, so does the need for defoliation efficiency. Experimental work is now being done on the use of defoliants on soybeans.

AMMONIUM THIOCYANATE

Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.

CALCIUM CYANAMIDE

AERO CYANAMID—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

AERO CYANAMID—Rogers & Hubbard Co., Portland, Conn.

MONOSODIUM CYANAMIDE

AERO SODIUM CYANAMID, DUST—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

CYANAMID—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

PENTACHLOROPHENOL

SWAN BRAND DEFOLIANT — Thompson Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

OIL SOLUTIONS—Wood-Treating Chemicals Co., 5137 S. W. Ave., St. Louis 10, Mo.

CHLORATE

ORTHO—C-1—California Spray Chemical Corp., Richmond, Calif.

DISINFECTANTS

ARASAN—General use, The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.

B-K—General use, National Agricultural Supply Co., Fort Atkinson, Wis.

B-K CHLORINE BEARING POWDER—General use, Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Penn.

CARBOLA—General use, Carbola Chemical Co., Inc., Natural Bridge, N. Y.

CEE DEE POWDER—General use, Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.

CERESAN M—General use, The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.

CREOSOTE STOCK DIP NO. 1—General use, Miller Chemical Co., Omaha, Nebr.

CRESYLIC DISINFECTANT — General use, Miller Chemical Co., Omaha, Nebr.

DIP & DISINFECTANT — General use, National Agricultural Supply Co., Fort Atkinson, Wis.

FAIR-CHLOR TABLETS — General use, Fairfield Laboratories, Inc., 417 Cleveland Ave., Plainfield, N. J.

FORMALDEHYDE—General use, Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis 7, Mo.

LIQUOR CRESOLIS SAPONALUS—For hospitals, Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

FOSKLOR—General use, Westvaco Chemical Division, 405 Lexington Ave., New York 17, N. Y.

GREEN CROSS SANITIZING TABLETS —Artificial Breeding, National Agricultural Supply Co., Fort Atkinson, Wis.

HTH-15—For poultry, Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

DR. HESS DIP & DISINFECTANT—General use, Dr. Hess & Clark, Inc., 7th & Orange Sts., Ashland, O.

DR. HESS DRYICIDE—General use, Dr. Hess & Clark, Inc., 7th & Orange Sts., Ashland, O.

HYCOL—Merck & Co., Inc., Rahway, N.J.

DR. LeGEAR'S DIP & DISINFECTANT—

DR. LeGEAR's POULTRY ANTISEPTIC CONCENTRATED—General use, Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis 16, Mo.

LO-BAX—For dairy sanitation, Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

NOPCOCIDE K—For general use, Nopco Chemical Co., Harrison, N. J.

SWAN BRAND PINE OIL DISINFECTANT—For public buildings, Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

PINE ODOR DISINFECTANT—General use, Miller Chemical Co., Omaha, Nebr.

PINEY NO. 5—General use, Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

PITTICIDE—General use, National Agricultural Supply Co., Fort Atkinson, Wis.

PURASAN AD—Use: germicide, Gallowhur Chemical Corp., 801 Second Ave., New York 17, N. Y.

PURASAN DC—Use: germicide, Gallowhur Chemical Corp., 801 Second Ave., New York 17, N. Y.

PURASAN OA—Use: bactericide and algaecide, Gallowhur Chemical Corp., 801 Second Ave., New York 17, N. Y.

RODALON—General use, Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.

SANTOPHEN 1—General use, Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

SEMESAN BEL—General use, The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.

SEPTIGARD 25—Odorless quarternary, Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

SWAN BRAND ANIMAL DIP—General use, Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

SWAN BRAND COAL TAR — General use, Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

SWAN BRAND KREMULSO — General use, The Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

SWAN BRAND HOSPITAL DISINFECTANT—General hospital use, Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

VETERINARY CREOLIN PEARSON—Merck & Co., Inc., Rahway, N.J.

FERTILIZERS

AMMONIA (Anhydrous)

BARRETT STANDARD — Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Dow Chemical Co., Midland, Mich.

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.

Monsanto Chemical Co., 1700 S. 2nd St., St. Louis 4, Mo.

PHILLIPS 66—Phillips Chemical Co., Fertilizer Sales Div., Bartlesville, Okla.

SHELL AGRICULTURAL AMMONIA—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.

SPENCER—Spencer Chemical Co., Dwight Bldg., Kansas City 6, Mo.

Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

AMMONIA (Liquid)

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.

Monsanto Chemical Co., 1700 S. 2nd St., St. Louis 4, Mo.

PHILLIPS 66—Phillips Chemical Co., Fertilizer Sales Div., Bartlesville, Okla.

SHELL AQUA AMMONIA—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.

Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

AMMONIUM NITRATE

AEROPRILLS—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.

Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

PHILLIPS 66—Phillips Chemical Co., Fertilizer Sales Div., Bartlesville, Okla.

SPENCER—Spencer Chemical Co., Dwight Bldg., Kansas City 6, Mo.

Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

HOW YOU CAN HELP FARMERS

Keep Milk Production Steady ...Even in Winter!

Recommend that they INSULATE dairy barns... with Celotex Insulation Board Products!

Steady milk production even in winter—good milk checks all through the year—lower feed bills! Plus barns that are more comfortable to work in—easier to keep clean and sanitary! That's what farmers can expect when they insulate with Celotex Insulation Board Products.

Celotex Insulation Board Products make dairy barns warm, dry, weathertight. They shut out chills and drafts, keep animal heat in. They improve ventilation and help maintain even temperatures.

And as thousands of dairymen have found from experience, all this means *more* milk, *better* milk on *less feed*. Because cows can turn *more* of the feed they eat into milk, instead of burning it up to keep warm!

It's simple to insulate an existing barn, or build a new one, with Celotex Insulation Board Products. These strong, durable materials are easy to saw and easy to nail. They go up fast, fit snug, stay put.

And they give *lasting protection*—because they're made of long, remarkably strong Louisiana cane fibres, and safeguarded by the exclusive (patented) Ferox® Process against dry rot and termites.

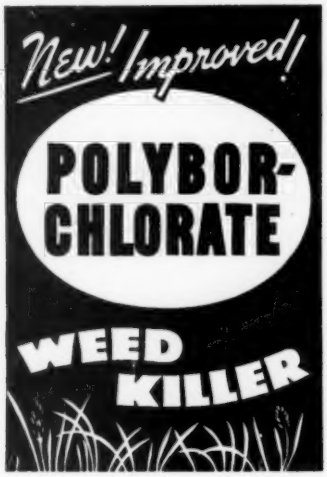
So, to help farmers in your area protect their profits—suggest that they insulate dairy barns with Celotex Insulation Board Products. Milk houses, poultry houses, hog houses and other farm buildings, too. They'll find it one of the *smartest investments* they ever made!

Complete working plans for building a modern, labor-saving, insulated 20-cow barn are available for only $1. Farmers can obtain them from the Celotex Dealer in their community, or by writing to The Celotex Corporation, Chicago 3, Illinois.

It's better, thriftier to build or remodel with genuine

CELOTEX
REG. U. S. PAT. OFF.
BUILDING PRODUCTS

THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS



- TOXIC TO ALL VEGETATION
- NONSELECTIVE
- FAST-ACTING
- NONFIRE-HAZARDOUS
- ECONOMICAL
- APPLY WET OR DRY

You get quick results with Polybor-Chlorate! Noxious weeds such as Ragweed, Johnson Grass, Russian Thistle, and a host of others, are all *destroyed* by Polybor-Chlorate...usually in one application. Yes, *destruction!*, not mere control, is offered by this new, improved weed-and-grass killer; it is highly soluble, noncaking and easy to use. Now the plant-destroying powers of both borates and chlorate are combined in one safe, nonfire-hazardous, herbicide... nonselective in action and with some residual effect for the destruction of seedlings in the following year. Act now to halt the spread of noxious weeds by applying this chemical so that it may be acting on roots and rhizomes. Remember, it's Polybor-Chlorate for effectiveness, economy and ease of handling... get some and prove this for yourself!

Write for FREE Illustrated Service Bulletins at Once!

PACIFIC COAST BORAX CO.
DIVISION OF BORAX CONSOLIDATED LIMITED
100 WEST SIXTH STREET • LOS ANGELES 14, CALIFORNIA

BORAX

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
PACIFIC BRAND—Pittsburgh Plate Glass Co., Columbia Chemical Div., Fifth Ave. at Bellefield, Pittsburgh 13, Pa.
F. M. SMITH—Stauffer Chemical Co., 636 California St., San Francisco, Calif.
Pacific Coast Borax Co., 51 Madison Ave., New York 10, N. Y.
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

CALCIUM CYANAMIDE

AERO-CYANAMID—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

FERTILIZERS-MIXED (Commercial)

AGRICO—American Agricultural Chemical Co., 50 Church St., New York 7, N. Y.
BEM BRAND—Thurston Chemical Co., Joplin, Mo.
EZ-MIN-EL—Tennessee Corp., Grant Bldg., Atlanta, Ga.
FERTILLA—The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.
HUBBARD — Rogers & Hubbard Co., Portland, Conn.
INTERNATIONAL—International Minerals & Chemical Corp., 20 N. Wacker Drive, Chicago 6, Ill.
LOMA — Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
MERCO — A. F. Pringle & Co., Inc., Charleston, S. C.
RA-PID-GRO (23-21-17) — Ra-Pid-Gro Corp., 88 Ossian, Danville, N. Y.
RED STEER—Swift & Co., Plant Food Div., 4115 Packer's Ave., Chicago, Ill.
RICH YIELD—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
TERRA FOOD FERTILIZER—Terra Food Fertilizer Co., 3038 Lower Azusa Rd., El Monte, Calif.
V-C—Virginia Carolina Chemical Corp., 401 E. Main St., Richmond 8, Va.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

MURIATE OF POTASH

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
SUNSHINE STATE POTASH—U. S. Potash Co., 30 Rockefeller Plaza, New York, N. Y.
International Minerals & Chemical Corp., 20 N. Wacker Drive, Chicago 6, Ill.
Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

NITRATE OF SODA

ARCADIAN—Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
PURE CHILEAN—Tritox Chemical Co., Washington, Ind.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

NUTRIENT FOLIAGE SPRAYS

NUGREEN — Rogers & Hubbard Co., Portland, Conn.
SOLUBLE FERTILIZER VHPF—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
UREA SPRAY COMPOUND—The Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

PHOSPHATE ROCK

AA QUALITY — American Agricultural Chemical Co., 50 Church St., New York 7, N. Y.
AERO-PHOS—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.
THOM-WARD — Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
International Minerals & Chemical Corp., 20 N. Wacker Drive, Chicago 6, Ill.
Swift & Company, Plant Food Division, 4115 Packer's Ave., Chicago 9, Ill.
V-C—Virginia-Carolina Chemical Corp., 401 E. Main St., Richmond 8, Va.
WESTERN ROCK PHOSPHATE—Miller Chemical Co., Omaha, Nebr.

SULFATE OF AMMONIA

FORD MOTOR COMPANY—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
PHILLIPS 66—Phillips Chemical Co., Fertilizer Sales Div., Bartlesville, Okla.
SHELL AMMONIUM SULFATE—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
Barrett Div., Allied Chemical & Dye Corp., 40 Rector St. New York 6, N. Y.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.
Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

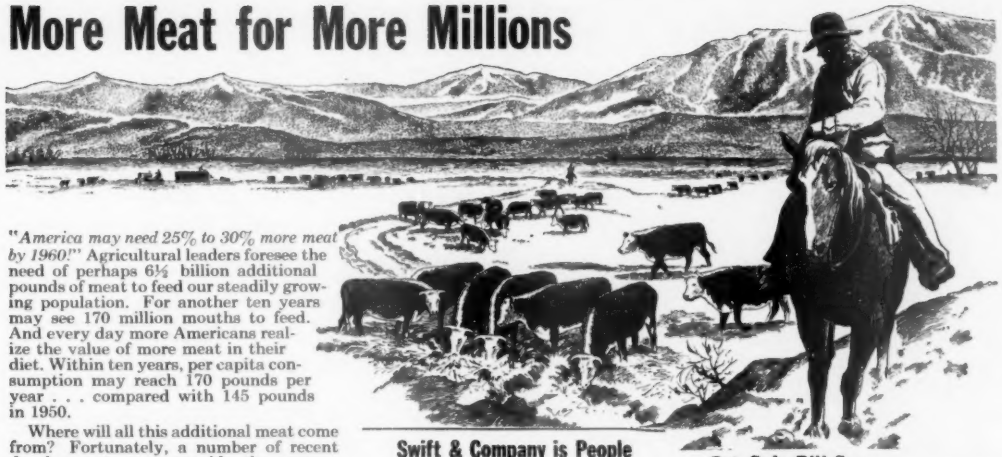
SULFATE OF POTASH

BEM BRAND—Thurston Chemical Co., Joplin, Mo.
INTERNATIONAL — International Minerals & Chemical Corp., 20 N. Wacker Drive, Chicago 6, Ill.

SUPERPHOSPHATE

ANACONDA TREBLE SUPERPHOSPHATE—Miller Chemical Co., Omaha, Nebr.
BEM BRAND—Thurston Chemical Co., Joplin, Mo.
P-40—Plant Products Corp., Blue Point, L. I., N. Y.
MERCO — A. F. Pringle & Co., Inc., Charleston, S. C.
RED STEER—Swift & Company, Plant Food Division, 4115 Packer's Ave., Chicago 9, Ill.
STAUFFER'S — Stauffer Chemical Co., 636 Calif. St., San Francisco, Calif.
V-C—Virginia Carolina Chemical Corp., 401 E. Main St., Richmond 8, Va.
18% NORMAL—American Agricultural Chemical Co., 50 church St., New York 7, N. Y.
International Minerals & Chemical Corp., 20 N. Wacker Drive., Chicago 6, Ill.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

More Meat for More Millions



"*America may need 25% to 30% more meat by 1960!*" Agricultural leaders foresee the need of perhaps 6½ billion additional pounds of meat to feed our steadily growing population. For another ten years may see 170 million mouths to feed. And every day more Americans realize the value of more meat in their diet. Within ten years, per capita consumption may reach 170 pounds per year . . . compared with 145 pounds in 1950.

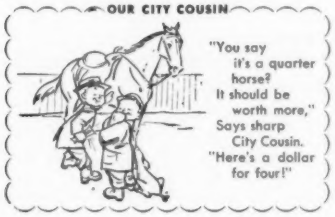
Where will all this additional meat come from? Fortunately, a number of recent developments may provide the answer. Modern range and farm management, and soil conservation practices, point to more grass and more livestock. Improved varieties of grasses and legumes mean greater livestock carrying capacity. Then you have hybrid corn and other new high-yielding grains. All these make more feed for more livestock.

And recent advances in *animal nutrition* point the way to *more meat pounds from our available feeds*. It isn't so long ago that hogs took a year to eighteen months to reach market weights . . . today it's five to six months. Rations balanced with proteins, minerals and vitamins are largely responsible. Similarly, producers of beef, lamb, poultry, eggs and milk have speeded production by scientific feeding. Very recent discoveries, such as A. P. F. (vitamin B_{12}), aureomycin, streptomycin, terramycin and other "wonder growth stimulators" help produce more meat from less feed.

Still other factors such as breed improvement, better control of livestock diseases and parasites, reduction of losses in shipping and from injuries, all add up to the possibility of more meat for America's tables. All these are modern aids toward increased production. Yet, even with all these aids, the very *size* of the job to be done challenges all of us in the livestock-meat industry.

"Why Do Livestock Prices Fluctuate?"

We've been asked that question numberless times. It's a puzzler to thousands of livestock people. So we prepared a leaflet to answer it clearly, with illustrations to make it easy to understand—and mailed it to all persons on our mailing list. So many asked us for copies for friends, or for group discussions, that we decided to offer it here, *free* to whoever wants it—as many copies as you can use. Address your request to F. M. Simpson, Swift & Company, Chicago 9, Ill.



Swift & Company is People

In addition to being a business corporation, Swift & Company is *people*—64,300 folks like you and me who have pooled their savings to build a business. These savings are invested in plants and equipment, in livestock and other raw materials, and in all the many things that make up Swift & Company.

Without people there could be no business, no Swift & Company. There must be people (shareholders) to supply the capital; other people (farmers and ranchers) to supply the raw materials; the 75,000 people (employes) who handle the company's business; and the millions of consumers who buy the meat and other products.

The success of a business enterprise depends on how these various groups of people get along together. In other words, the owners of Swift & Company and livestock producers, employes, and the company's customers have *got* to get along together on a basis of being good neighbors.

The management of Swift & Company recognizes all these responsibilities to those various groups of people who, together, make our business. It is to *their* interest also that we manage our business efficiently, that we earn a sufficient profit to let us continue contributing to the well-being of more and more people.

F. M. Simpson
Agricultural Res. Dept.

Martha Logan's Recipe for
INDIVIDUAL SWISS STEAKS

Yield: 6 to 8 servings

3 to 4 pounds Beef Round Steak (cut 2 inches thick)	Salt, pepper
2 cups cooked tomatoes or tomato juice	1 cup flour
	½ cup fat
	2 onions

Cut meat into circles or squares 3 inches in diameter. Season the steaks and place on a well-floured cutting board. Cover with flour and pound with a meat hammer or edge of heavy saucer. Continue to turn, flour and pound meat until all flour is taken up by the steaks. Brown sliced onions in hot fat in a heavy frying pan. Remove onions. Brown steak on both sides in fat. Place onions on top. Add tomatoes (or 2 cups water and 2 tablespoons vinegar or catsup). Cover and cook slowly or bake in a moderate oven (350° F.) 2½ or 3 hours.

Soda Bill Sez . . .

A man buried in work is usually very much alive.

If you wake up famous, you haven't been asleep too long.

Cropping Systems Change Farm "Sizes"

F. C. Bauer

by Professor F. C. Bauer
Department of Agronomy
University of Ill., Urbana

Farm boundaries tend to remain unchanged over long periods of time. "Productivity boundaries," however, are constantly changing. The extent of these changes may be very large as revealed by the Morrow plots, America's oldest soil experiment field, established on the University of Illinois campus 75 years ago.

Measured by net returns, one Morrow plot is now only 27 percent as productive as it was in the beginning. A second plot has not changed. A third plot is 32 percent more productive. If these plots had been 100-acre farms, the physical boundaries would remain unchanged. The "productive sizes" of them, however, would be different. In terms of the original productivity they would now be equivalent to 27, 100, and 132 acre farms respectively. These highly significant differences are due largely to the effects of cropping systems on soil structure and nutrient supplies.

Such data emphasize the need for care in planning systems of farming. The Morrow plots point the way to such systems. Some of the more important principles revealed are: 1) avoid the excessive use of row crops; 2) use balanced crop rotations; 3) center cropping systems around deep-rooted legumes; stand-over legumes are more efficient than green manure legumes; 4) keep enough of the farm in deep-rooted legumes and handle them in such ways as to insure a sustained productivity and conservation; 5) apply mineral nutrients needed to insure successful stands of the legume crops.

Swift & Company
UNION STOCK YARDS, CHICAGO 9, ILL.
Nutrition is our business—and yours

YOU have a MINERAL DEFICIENCY!

If you were told by your physician that your body was deficient of certain minerals, you would correct this deficiency at once because you know the value of minerals to the good health of the human body. Minerals are just as important to good healthy soil. Soils deficient in minerals cannot produce healthy, vitamin rich crops—ES-MIN-EL contains the essential mineral elements of Copper, Zinc, Iron, Manganese, Boron and Magnesium —Consider the health of your soil— Mineralize now with ES-MIN-EL.

ES-MIN-EL

Free Booklet

Send card or letter to Tennessee Corp., Grant Building., Atlanta, Georgia or Lockland, Ohio.

TENNESSEE TC CORPORATION

SUPERPHOSPHATE (Ammoniated)

V-C—Virginia-Carolina Chemical Corp., 401 East Main St., Richmond 8, Va.
International Minerals & Chemical Corp., 20 N. Wacker Drive, Chicago 6, Ill.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

UREA

URAMON—Rogers & Hubbard Co., Portland, Conn.
Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
Miller Chemical & Fertilizer Corp., 1000 South Caroline St., Baltimore 31, Md.

FUMIGANTS

GRAIN FUMIGANTS

CARBON BISULFIDE

SWAN BRAND—Westvaco Chemical Division, Food, Machinery and Chemical Corp., 405 Lexington Ave., New York 17, N. Y.
WEEVILTOX—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
Westvaco Chemical Division, Food, Machinery & Chemical Corp., 405 Lexington Ave., New York 17, N. Y.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt Sts., St. Louis, Mo.
Stauffer Chemical Co., 636 California St., San Francisco, Calif.
Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

CARBON TETRACHLORIDE (Mixture)

CYANOGAS—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.
DOWFUME EB-5 — The Dow Chemical Co., Midland, Mich.
WESTVACO GRAIN FUMIGANT NO. 3 —Westvaco Chemical Div., Food Machinery & Chemical Corp., 405 Lexington Ave., New York 17, N. Y.

ETHYLENE DIBROMIDE-ETHYLENE DICHLORIDE

DOWFUME EB-15—Dow Chemical Co., Midland, Mich.
SWAN BRAND WEEVIL-KILL—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
Westvaco Chemical Division, Food, Machinery & Chemical Corp., 405 Lexington Ave., New York 17, N. Y.

ETHYLENE DICHLORIDE-CARBON TETRACHLORIDE

DIWEEVIL—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
DOWFUME 75—Dow Chemical Co., Midland, Mich.
MILLERFUME—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MILLERS WEEVIL KILLER — Miller Chemical Co., Omaha, Nebr.
SWAN BRAND FUMIGANT NO. 1—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
WESTVACO GRAIN FUMIGANT NOS. 4 & 5—Westvaco Chemical Div. Food Machinery & Chemical Corp., 405 Lexington Ave., New York 17, N. Y.

SOIL FUMIGANTS

CARBON TETRACHLORIDE (Mixture)

DOWFUME EB-5—Dow Chemical Co., Midland, Mich.
LARVACIDE 15 MIX—Innis, Speiden & Co., 117 Liberty St., New York 6, N. Y.

CHLOROPICRIN

LARVACIDE (for grain also)—Innis, Speiden & Co., 117 Liberty St., New York 6, N. Y.

DICHLOROPROPANE-DICHLOROPROPENE (Mixture)

DOWFUME N—Dow Chemical Co., Midland, Mich.
NEMAFUME—Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles 23, Calif.
SECURITY BRAND DD — Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
SHELL D-D—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.

ETHYLENE DIBROMIDE

BROMOFUME—Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles 23, Calif.
DOWFUME W-40 and W-85—Dow Chemical Co., Midland, Mich.
ISCOBROME D—Innis, Speiden & Co., 117 Liberty St., New York 6, N. Y.
SOILFUME 60-40-80-20 and 85—Westvaco Chemical Div., Food Machinery & Chemical Corp., 405 Lexington Ave., New York 17, N. Y.
SOILFUME 60-40-85—Niagara Chemical Division, Food, Machinery & Chemical Corp.. Middleport, N. Y.
TERRAFUME 40—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

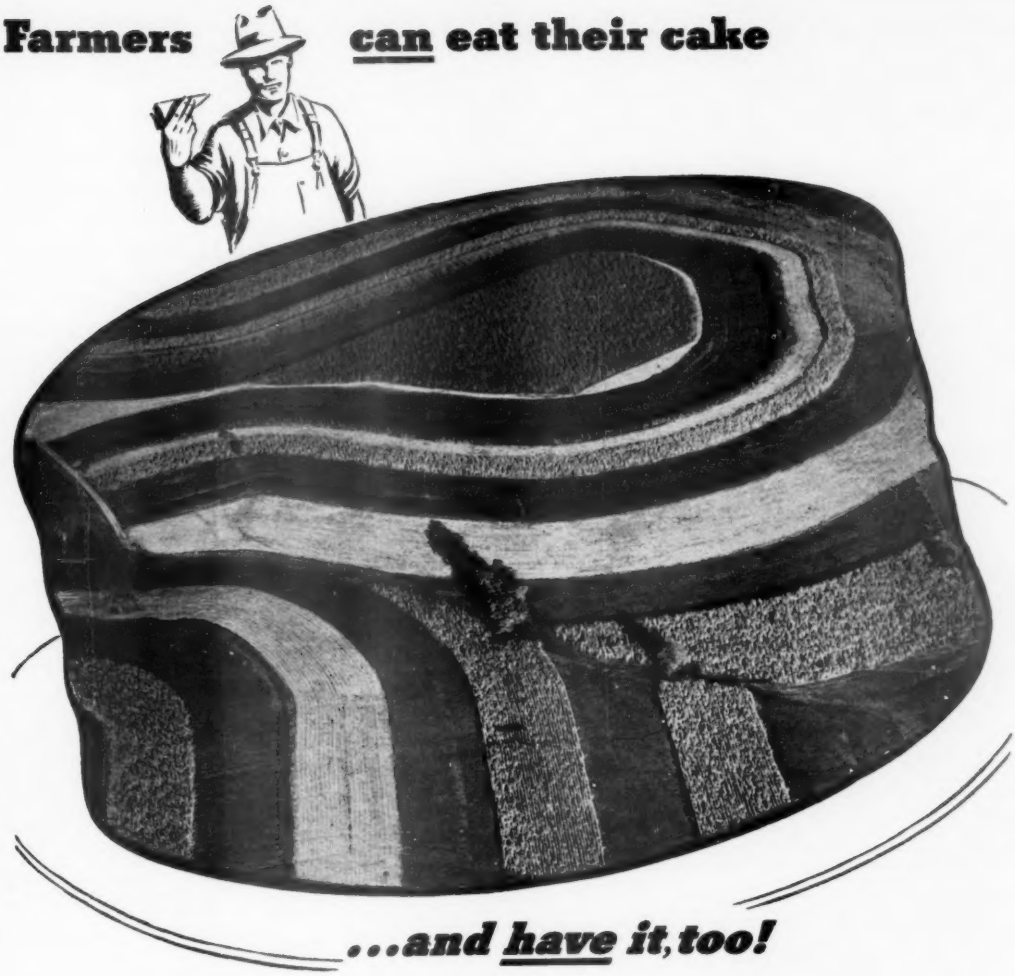
METHYL BROMIDE

ISCOBROME—Innis, Speiden & Co., 117 Liberty St., New York 6, N. Y.
DOW METHYL BROMIDE — Miller Chemical Co., Omaha, Nebr.
PESTMASTER—Michigan Chemical Corp., St. Louis, Mich.
Westvaco Chemical Division, Food, Machinery and Chemical Corp., 405 Lexington Ave., New York 17, N. Y.

METHYL BROMIDE-CHLOROPICRIN (Mixture)

DOW M-C—Miller Chemical Co., Omaha, Nebr.
DOWFUME MC-2—Dow Chemical Co., Midland, Mich.
LARVABROME—Innis, Speiden & Co., 117 Liberty St., New York 6, N. Y.
PESTMASTER—Michigan Chemical Corp., St. Louis, Mich.

Farmers can eat their cake



...and have it, too!

Yes, modern conservation practices soon begin to repay their cost—enable farmers to eat their cake and have it, too. Controlling erosion helps to hold precious topsoil on the land and, at the same time, hoists farming profits.

Contouring, terracing, strip-cropping, and other soil-saving operations, which can be practiced with regular John Deere farm equipment, mend mismanaged or erosion-scarred land. Grasses and legumes, together with agricultural limestone and commercial fertilizers, rebuild soil productivity in a hurry. This double-barreled program, recommended by agricultural authorities, enables soil conservation farmers to improve their places and, at the same time, raise bigger yields and enjoy better incomes than ever before.

Soil conservation, however, is more than a remedy for ailing acres or a recipe for bigger profits. It's a gilt-edged investment in America. By making our agriculture more stable and productive, modern soil conservation practices help to maintain our economic well-being and safeguard our national security.

JOHN DEERE MOLINE, ILL.

How to Use and Apply Lindane
(Continued)

Insect	*Formulation*	*Rate of Application*	*Remarks*
Ants	20% Liquid Concentrate	1 part Concentrate in 9 to 16 parts odorless Kerosene	Apply by means of hi-fog gun or other atomizing equipment.
	20% Liquid	1 gallon per 25 gallons of water.	Spray baseboards, cracks and floors. Repeat application as often as necessary.
	25% Wettable Powder	10 lbs. per 100 gallons of water.	Spray baseboards, cracks and floors. Repeat application as often as necessary.
Aphis	20% Liquid	1 pint per 100 gallons diluted spray.	Spinach. Apply in seedling stage.
		1 pint per 100 gallons diluted spray.	Celery. Do not apply after plants are half grown.
		1 pint per 100 gallons diluted spray.	Cole crops. Do not use on cabbage after heads begin to form.
		1 pint per 100 gallons diluted spray.	Greenhouse nursery plants. Repeat applications as necessary.
	25% Powder	1 lb. in 100 gallons of water.	Apples, walnuts, forage crops. Do not apply later than 2 weeks before harvest. Do not apply on Apples within 60 days of harvest.
		1 lb. in 100 gallons of water.	Celery. Treat before Celery is half grown.
		1 lb. in 100 gallons of water.	Cole crops. Treat before heads form.
		1 lb. in 100 gallons of water.	Cucurbits. Do not apply after blossoms form. Treat under leaves also.
		1 lb. in 100 gallons of water.	Peppers. Do not apply after blossoms fall.
		1 lb. in 100 gallons of water.	Spinach. Use only in seedling stage.
		1 lb. per 100 gallons of water.	Tobacco. Repeat treatment as necessary.
	2% Dust	25 to 45 lbs. per acre.	Beans-lima beans. Treat before pods form.
		25 to 45 lbs. per acre.	Citrus. Do not apply after fruit starts to form.
		25 to 45 lbs. per acre.	Cole crops. Treat before heads form.
		25 to 45 lbs. per acre.	Corn. Treat before silks appear.
		25 to 45 lbs. per acre.	Cucurbits. Do not treat after blossoms open.
		25 to 45 lbs. per acre.	Egg plant. Treat at least two weeks before harvest. Do not apply after blossoms fall.
		25 to 45 lbs. per acre.	Forage crops-Alfalfa and Clover. Apply when first cutting is 2 to 4 inches high and repeat after each cutting. Do not apply during blossom period.
		25 to 45 lbs. per acre.	Apples, peaches, plums, prunes. Do not apply later than 60 days before harvest.
		25 to 45 lbs. per acre.	Peppers. Do not apply later than 1 week before harvest. Do not apply after fruit sets.
		25 to 45 lbs. per acre.	Spinach. (Seedling)
		25 to 45 lbs. per acre.	Tomatoes. Apply before fruit starts to set.
Aphis	1.5% Dust	25 to 45 lbs. per acre.	Beans & lima beans. Treat before pods begin to form.
		25 to 45 lbs. per acre.	Citrus. Do not apply after fruit starts to form.
		25 to 45 lbs. per acre.	Cole crops. Depending on plant size and insect infestation. Treat before heads form.
		25 to 45 lbs. per acre.	Corn. Apply before silks appear.
		25 to 35 lbs. per acre.	Cucurbits. Treat when insects first appear. Avoid dusting during harvest period of pickles.
		25 to 30 lbs. per acre.	Egg plant. Do not apply after blossoms fall.
		25 to 45 lbs. per acre.	Forage crops-Alfalfa and Clover. Apply when first cutting is from 2 to 4 inches high. Do not apply during the blossom period.
		25 to 45 lbs. per acre.	Apples, peaches, plums, prunes. Treat not later than 60 days before harvest.
		25 to 45 lbs. per acre.	Peppers. Do not apply after blossoms fall.
		25 to 45 lbs. per acre.	Spinach. (Seedling)

NICOTINE

NICO-FUME PRESSURE FUMIGATOR and NICO-FUME LIQUID — Tobacco By-Products & Chemical Corp., 401 E. Main St., Richmond 8, Va.

FUNGICIDES

BORDEAUX MIXTURE

ACME—Quality Paints, Inc., Detroit 11, Mich.
BORDOW—Dow Chemical Co., Midland, Mich.
BORDOW — Associated Seed Growers, Inc., Box 4264, Atlanta 2, Ga.
COPPER HYDRO BORDO—Chipman Chemical Co., Bound Brook, N. J.
COPPER HYDRO BORDO — Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
CORONA—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
DUO BORDO—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
FUNGI-BORDO—Rogers & Hubbard Co., Portland, Conn.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
ORTHO (Powdered)—California Spray-Chemical Corp., Richmond, Calif.
SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

COPPER CARBONATE

CORONA COPPER CARB 20 and 50—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
HARSHAW — The Harshaw Chemical Company, 1945 E. 97th St., Cleveland 6, O.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
SEED-TREATING DUST NO. 20—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City, Mo.

COPPER OXIDES (Yellow)

COPPER DUST — Agicide, Inc., 1600 Junction Ave., Racine, Wis.
CUCUMBER DUST No. 3—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
YELLOW CUPROCIDE—Rohm & Haas Co., Philadelphia, Pa.
YELLOW CUPROCIDE—Rogers & Hubbard Co., Portland, Conn.

COPPER OXIDES (Red)

RED CUPROCIDE—Rogers & Hubbard Co., Portland, Conn.

COPPER OXYCHLORIDES

CCC COPPER DUST—Carbola Chemical Co., Inc., Natural Bridge, N. Y.
C.O.C.S. 56—Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
C.O.C.S. — Niagara Chemical Division,

Food, Machinery and Chemical Corp., Middleport, N. Y.
COPPER A COMPOUND — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
COPRQURE—Bonide Chemical Co., Utica, N. Y.
CUPRO-K—Rohm & Haas Co., Philadelphia 5, Pa.
CUPRO-K—Rogers & Hubbard Co., Portland, Conn.
TOMATO DUST—Bonide Chemical Co., Utica 4, N. Y.

COPPER SULPHATE

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
ORTHO INSTANT BLUSTONE—California Spray Chemical Corp., Richmond, Calif.
TENNESSEE—Miller Chemical Co., Omaha, Nebr.
TRIANGLE BRAND—Phelps Dodge Refining Corp., 40 Wall St., New York 5, N. Y.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Rogers & Hubbard Co., Portland, Conn.

COPPER SULFATES (Basic)

COPODUST—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
CORONA "53" and CORONA "26"—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
DUO-COPPER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
KROP-SAVER TRI-BASIC — Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.
MICRO NU-COP—Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
NU-COP—Doggett-Pfeil Co., Springfield, N. J.
ORTHO-COP 53—California Spray-Chemical Corp., Richmond, Calif.
PESTMASTER — Michigan Chemical Corp., St. Louis, Mich.
530 SPRAYCOP, 340 SPRAYCOP and 70 DUSCOP—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
TENNESSEE TRI-BASIC and TENNESSEE 26—Miller Chemical Co., Omaha, Nebr.
TRIANGLE BRAND—Phelps Dodge Refining Corp., 40 Wall St., New York 5, N. Y.
TRIKOP—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
Rogers & Hubbard Co., Portland, Conn.

DICHLORONAPTHOQUINONE

NIAGARA PHYGON—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
PHYGON XL, PHYGON ROSE DUST and PHYGON PASTE—Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.
PHYGON—Rogers & Hubbard Co., Portland, Conn.
PHYGON XL — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.

How to Use and Apply Lindane

(Continued)

Insect	*Formulation*	*Rate of Application*	*Remarks*
		25 to 45 lbs. per acre.	Tomatoes. Depending on plant size and insect population. Do not dust after fruit starts to set.
	1% Dust	25 to 45 lbs. per acre.	Beans & lima beans. Depending on plant size and insect population. Treat before pods form.
		25 to 45 lbs. per acre.	Cabbage for seed. Depending on plant size and insect population.
		25 to 45 lbs. per acre.	Citrus. Depending on plant size and insect population. Treat before fruits form.
		25 to 45 lbs. per acre.	Cole crops. Treat before heads form.
		25 to 45 lbs. per acre.	Corn. Apply before silks appear.
		25 to 45 lbs. per acre.	Cucurbits. Depending on plant size and insect infestation. Do not treat after blossoms open.
		25 to 45 lbs. per acre.	Egg plant. Do not apply after blossoms fall.
		25 to 45 lbs. per acre.	Forage crops-Alfalfa & Clover. Apply when first cutting is 2 to 4 inches high. Do not apply during blossoming period.
		25 to 45 lbs. per acre.	Apples, peaches, plums, prunes. Do not apply later than 2 weeks before harvest.
		25 to 45 lbs. per acre.	Peppers. Do not apply later than 60 days before harvest.
		25 to 45 lbs. per acre.	Spinach. (Seedling)
		25 to 45 lbs. per acre.	Tomatoes. Depending on plant size and insect population. Do not dust after fruit starts to set.
Armyworms	25% Powder	1 lb. per 100 gallons of water.	Peppers. Do not apply after blossoms form.
Asparagus Beetle	2% Dust	25 to 45 lbs. per acre.	Asparagus. (Seedling and post-cutting)
	1.5% Dust	25 to 45 lbs. per acre.	Asparagus. (Seedling and post-cutting)
	1% Dust	25 to 45 lbs. per acre.	Asparagus. (Seedling and post-cutting)
Bedbugs	20% Liquid Concentrate	1 part Concentrate in 9 to 16 parts odorless Kerosene	Apply by means of hi-fog gun or other atomizing equipment.
Cabbage Maggot	25% Powder	1 lb. per 100 gallons of water.	Cole crops. Treat before heads begin to form.
Cabbage Seed Pod Borer	1% Dust	25 to 45 lbs. per acre.	Cabbage for seed. Depending on size and insect population.
Chiggers	25% Powder	2 lbs. per 100 gallons of water.	On vegetation. Depending on plant size and insect population.
Climbing Cutworms	25% Powder	1 lb. per 100 gallons of water.	Celery. Treat before celery is half grown.
Clothes Moths	20% Liquid Concentrate	1 part Concentrate in 9 to 16 parts odorless Kerosene	Apply by means of hi-fog gun or other atomizing equipment.
Colorado Potato Beetle	2% Dust	25 to 45 lbs. per acre.	Tomatoes. Apply before fruit set.
	1.5% Dust	25 to 45 lbs. per acre.	Tomatoes. Do not dust after fruit starts to set.
	1% Dust	25 to 45 lbs. per acre.	Tomatoes. Depending on plant size and insect infestation. Do not dust after fruit starts to set.
Cucumber Beetle	20% Liquid	¼ to ½ pint per 100 gallons diluted spray.	Cucurbits. Do not use after blossoms form.
		1 pint per 100 gallons of water.	Camellias, azaleas, rhododendrons. Spray to saturate soil around plants in beds.
	25% Powder	½ lb. per 100 gallons of water.	Cucurbits. Do not apply after blossoms form.
	2% Dust	25 to 45 lbs. per acre.	Cucurbits. Do not treat while harvesting pickles.
	1.5% Dust	10 to 15 lbs. per acre.	Cucurbits. Treat before bloom.
	1% Dust	25 to 45 lbs. per acre.	Cucurbits. Apply after blossoms open.
Cutworms	20% Liquid	Use 1¼ to 1½ pints per acre in sufficient water for even distribution.	Soil insects. Apply as a spray directly on the soil, then disc as soon as practicable to give thorough distribution in upper 4 to 6 inches of soil.
	25% Powder	Use 1 to 2 lbs. per 100 gallons water per acre.	Soil insects. Apply as a spray or dust directly on the soil then disc as soon as practicable to give thorough distribution in upper 4 to 6 inches of soil.

How to Use and Apply Lindane
(Continued)

Insect	*Formulation*	*Rate of Application*	*Remarks*
	1.5% Dust	17 to 33 lbs. per acre.	Soil insects. Apply as a dust directly on the soil then disc as soon as practicable to give thorough distribution in upper 4 to 6 inches of soil.
Cutworms	1% Dust	25 to 50 lbs. per acre.	Soil insects. Apply as a dust directly on the soil then disc as soon as practicable to give thorough distribution in upper 4 to 6 inches of soil.
Diabrotica Beetles	20% Liquid	1 pint per 100 gallons of diluted spray.	Greenhouse nursery plants. Repeat application as necessary.
	25% Powder	1 lb. in 100 gallons of water.	Cole crops. Treat before heads begin to form.
		1 lb. in 100 gallons of water.	Tobacco.
	2% Dust	25 to 45 lbs. per acre.	Tomatoes. Do not dust after fruit starts to set.
	1.5% Dust	25 to 45 lbs. per acre.	Tomatoes. Do not dust after fruit starts to set.
	1%	25 to 45 lbs. per acre.	Tomatoes. Depending on plant size and insect infestation. Do not dust after fruit starts to set.
Flies	20% Liquid Concentrate	1 part Concentrate in 9 to 16 parts odorless Kerosene	Apply by means of hi-fog gun or other atomizing equipment.
	20% Liquid	1½ gallons in 100 gallons of water.	As a spray. Apply at rate of 1 gallon diluted spray per 500 sq. feet of surface or until surface is thoroughly wet.
		1 quart in 2½ gallons of water.	As a paint. Paint around windows, doors, ceiling beams and other places frequented by flies.
	25% Wettable Powder	10 lbs. in 100 gallons of water.	As a spray. Apply at the rate of 1 gallon diluted spray per 500 sq. ft. of surface or until surface is thoroughly wet.
		1 lb. in 2½ gallons of water.	As a paint. Paint windows, doors and ceiling beams.
Fuller Rose Weevil	20% Liquid	1 pint per 100 gallons of water.	Camellias, azaleas, rhododendrons. Spray to saturate soil around plant beds.
Grasshoppers	25% Powder	1 lb. in 100 gallons of water.	Apples, walnuts, forage crops. Do not apply later than 2 weeks before harvest. Do not apply on apples within 60 days of harvest.
		1 lb. in 100 gallons of water.	Cucurbits. Do not apply after blossoms form. Treat under leaves also.
		1 lb. in 100 gallons of water.	Tobacco.
	2% Dust	25 to 45 lbs. per acre.	Cranberries. Treat not later than blossoming.
		25 to 45 lbs. per acre.	Forage crops-Alfalfa & Clover. Apply when first cutting is 2 to 4 inches high and repeat in new growth after each cutting.
	1.5% Dust	25 to 45 lbs. per acre.	Cranberries. Do not apply after blossoms open.
		25 to 45 lbs. per acre.	Forage crops-Alfalfa & Clover. Apply when first cutting is from 2 to 4 inches high. Do not apply during blossoming period.
Grasshoppers	1% Dust	25 to 45 lbs. per acre.	Cranberries. Treat not later than blossoming.
		25 to 45 lbs. per acre.	Forage crops-Alfalfa & Clover. Apply when first cutting is from 2 to 4 inches high. Do not apply during blossoming period.
Lace Wing Bugs	2%	25 to 45 lbs. per acre.	Egg plant. Do not apply after blossoms fall.
	1.5%	25 to 30 lbs. per acre.	Egg plant. Do not apply after blossoms fall.
	1%	25 to 45 lbs. per acre.	Egg plant. Do not apply after blossoms fall.
Leafminers	20% Liquid	1 pint per 100 gallons diluted spray.	Spinach. Apply only in seedling stage.
		1 pint per 100 gallons diluted spray.	Greenhouse nursery plants. Repeat applications as necessary.
	25% Powder	1 lb. per 100 gallons of water.	Cucurbits. Do not apply after blossoms form. Treat under leaves also.
		1 lb. per 100 gallons of water.	Peppers. Do not apply after blossoms fall.
		1 lb. per 100 gallons of water.	Spinach. Use only in seedling stage.
		1 lb. per 100 gallons of water.	Tomatoes. (Fresh fruit market only.) Do not apply after blossoms form.

DINITRO COMPOUNDS

DINITRO DRY—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
DN-111, DN-289, DN DRY MIX—Rogers & Hubbard Co., Portland, Conn.
ORTAZOL—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 3, Md.

NABAM (Disodium Ethylene Bis Dithiocarbamate)

DITHANE D-14—Rohm & Haas Co., Philadelphia 5, Pa.
DITHDANE D-14 — Rogers & Hubbard Co., Portland, Conn.
PARZATE—Rogers & Hubbard Co., Portland, Conn.
THIODOW—The Dow Chemical Co., Midland, Mich.
Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

FERBAM (Ferric Dimethyl Dithiocarbamate)

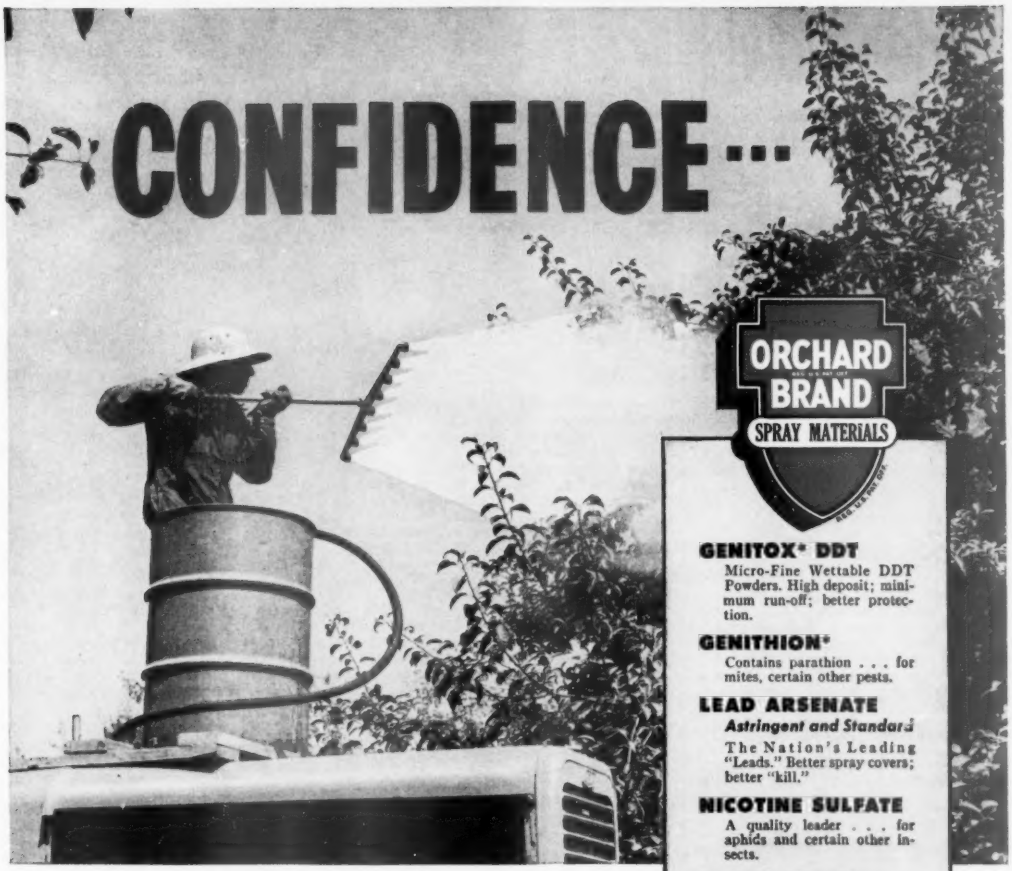
BONZER—Bonide Chemical Co., Utica 4, N. Y.
COROMATE—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
FERBAM—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
FERMATE — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
FERMATE, FERDOW, KARBAM—Rogers & Hubbard Co., Portland, Conn.
FERRADOW—Dow Chemical Co., Midland, Mich.
NIAGARA CARBAMATE—Niagara Chemical Div., Food Machinery Corporation, Middleport, N. Y.
NU-LEAF BLACK FUNGICIDE—California Spray-Chemical Corp., Richmond, Calif.
ORCHARD BRAND—General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

GLYOXALIDINES

ORCHARD BRAND — General Chemical Div., Allied Chemical and Dye Corp., 40 Rector St., New York 6, N.Y.
341-C—Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Plant Products Corp., Blue Point, L. I., N. Y.

LIME SULFUR (Liquid)

GOLD BEAR—Swift & Company, Plant Food Division, 4115 Packer's Ave., Chicago 9, Ill.
LIME SULFUR SOLUTION—The Dow Chemical Co., Midland, Mich.
LIME SULFUR SOLUTION — Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGARA—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.



...*earned* by dependable performance

TWO GENERATIONS of America's commercial fruit growers have relied upon General Chemical spray materials. They know from long experience that every product bearing the *Orchard Brand* trade-mark can always be depended upon for top results in pest control.

SUCH DEPENDABLE performance is important when you raise fruit as a business! So be sure. For 1951, remember your job is well begun with *Orchard Brand!*

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

Offices in Principal Agricultural Centers from Coast to Coast

GENITOX* DDT
Micro-Fine Wettable DDT Powders. High deposit; minimum run-off; better protection.

GENITHION*
Contains parathion . . . for mites, certain other pests.

LEAD ARSENATE
Astringent and Standard
The Nation's Leading "Leads." Better spray covers; better "kill."

NICOTINE SULFATE
A quality leader . . . for aphids and certain other insects.

MICRO-DRITOMIC* SULFUR
With particles of true micron fineness; for apple scab, peach brown rot.

FERBAM
Organic fungicide for Apples, Cherries, Pears, Peaches, Grapes.

SPRAYCOP*
Neutral or "fixed" copper for sour cherries, grapes.

GENICOP* SPRAY POWDER
DDT—neutral copper for grapes.

BHC SPRAY POWDER
For first brood curculio on peaches.

STAFAST*
For drop control; pre-harvest hormone spray materials.

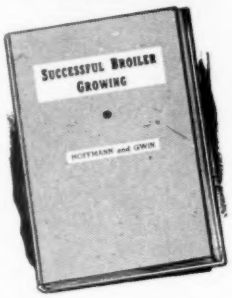
FILMFAST*
Spreader-sticker to make sprays go farther, last longer.

*Reg. U. S. Pat. Off.

Order Now!

- **Completely Revised**
- **More Illustrations**
- **New Methods Outlined**

2nd Edition of Popular Book



By Dr. Edmund Hoffmann, Associate Professor of Poultry Husbandry, University of Georgia, and Dr. James M. Gwin, Director of Agricultural Extension, University of Maryland. 256 pages, liberally illustrated . . . answers most frequently-asked broiler growers' questions.

Do You Know?

- What are the best breeds for broiler production?
- How much capital it takes to get into the broiler business?
- What is a good standard rate of growth at which to aim?
- How much feed is required per pound of gain for efficient production?
- What are the advantages and disadvantages of using batteries?
- What are the eight requirements for success in broiler production?
- What three factors determine whether there will be a disease outbreak in any broiler plant?
- That there is a good opportunity for the individual small-scale producer, in spite of the fact that there are now at least nine major commercial broiler growing areas.

This new book, Successful Broiler Growing, has the answer to these and hundreds of other questions which broiler growers ask.

Order now . . . Price—$3.50

BETTER FARMING METHODS
Mount Morris, Illinois

Rush me a copy of Successful Broiler Growing, revised, as soon as available (about Feb. 1, 1951). $3.50 enclosed. Send Postage Prepaid.

Name _____
(Please print plainly)

Address _____

City and State _____

Personal

Illinois honored their local 4-H club leaders on November 21. Left to right, E. I. Pilchard, state agricultural 4-H Club leader; Miss Anna Searl, state home economics 4-H Club leader; Rollen E. Rine, president, Illinois Chain Store Council; Wendel Swanson, Winnebago county 4-H Club member; W. G. Kammlade, Associate Director, Illinois Extension Service; and I. E. Parett, division of public relations, Illinois Agricultural Association. The Illinois Chain Store Council sponsors this annual recognition banquet.

Joseph V. Caldwell, graduate of Furman University, Greenville, South Carolina, has been appointed assistant editor of the North Carolina Experiment Station. He will work with **Lane M. Palmer**, associate Experiment Station editor, in publicizing the agricultural research program of the state.

New appointments in North Carolina include **L. D. Baldwin**, Negro assistant county agent, Tarboro; **A. L. Jones**, Negro county agent, Snow Hill; and **R. D. Smith**, assistant county agent, Yadkinville.

The director of the Colorado A & M College Experiment Station, **Homer J. Henney**, has been appointed regional experiment station representative for the 11 western states. This appointment is under the newly-announced Nation's grassland program. He will work with **E. V. Ellington**, director of Washington State College's Extension Service, who represents Extension for the 11-state region.

A former Oregon county extension agent, **Walter C. Leth**, Monmouth, has been named to represent four northwest Land Grant Colleges on the U.S. Department of Agriculture field committee. He formerly served as county extension agent in Polk county.

The new editor of the Jersey Bulletin, published in the interest of Jersey cattle, is **Clark O. Lewis**, Chillicothe, Mo. Lewis was formerly an assistant county extension agent in Livingston county, Missouri.

Recently elected officers for the Wyoming county agents association for the year 1950-1951 are: **Harold Hurich**, Pinedale, president; **Arvil Ashment**, Basin, vice-president; and **Ray Wolfley**, Afton, secretary-treasurer.

ORTHO LIME-SULFUR SOLUTION—California Spray-Chemical Corp., Richmond, Calif.
REX—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
ZEHRUNG CALCIUM POLYSULFIDE—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Ore.
Rogers & Hubbard Co., Portland, Conn.

LIME SULFUR (Dry)

ACME—Quality Paints, Inc., Detroit 11, Mich.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
DOW—Dow Chemical Co., Midland, Mich.
NIAGARA—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MILLER—Miller Chemical Co., Omaha, Nebr.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Rogers & Hubbard Co., Portland, Conn.

MICRONIZED SULFUR

BONSUL—Bonide Chemical Co., Utica, N. Y.
CORONA (Dusting and Wettable)—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
MAGNETIC "95," "90," and "70"—Stauffer Chemical Co., 636 California St., San Francisco, Calif.
MICO — Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MIKE—Rogers & Hubbard Co., Portland, Conn.
MICRO-DRITOMIC—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
MIKE—Dow Chemical Co., Midland, Mich.
SULFORON—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 31, Md.
Plant Products Corp., Blue Point, L. I., N. Y.

SULFUR (Dusting)

BLACK LEAF—Tobacco By-Products & Chemical Corp., 491 E. Main St., Richmond, Va.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
COROSUL D—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
DOW—Tritox Chemical Co., Washington, Ind.
FOGBRAND—Miller Chemical Co., Omaha, Nebr.
KROP-SAVER—Crop Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.
MAGNETIC 90, OWL PERFECTION, SWAN and ELECTRIC—Stauffer Chemical Co., 636 California St., San Francisco, Calif.

When writing advertisers please mention *Better Farming Methods*

RATS can be useful

White rats, for example, when used for measuring vitamin D_2, render an indispensable service in connection with feeds, foods and pharmaceuticals.

Although there have been many attempts made to develop rapid, inexpensive chemical methods for general use in vitamin D_2 assay work, results have as yet been unsuccessful. That's why the expensive, time-consuming "rat assay" is still the method used for vitamin D_2 determination.

It is difficult to believe that a tiny bit of vitamin D_2 so small that it is invisible to the naked eye can actually be measured. However, by means of the laboratory or "white" rat this seemingly impossible task can be accomplished.

Would you like to know how a rat assay is made, how vitamin D_2 is measured? Dr. G. C. Wallis, our Animal Nutritionist, who has had many years' experience with rat assays for vitamin D_2, describes this test in a new bulletin entitled "How Vitamin D_2 is Measured." This bulletin is available to Vo-Ag teachers, County Agents and others interested in good nutrition.

For your free copy of this special bulletin, "How Vitamin D_2 is Measured," mail the coupon below.

FLEISCHMANN'S
FIDY
TYPE 36-F
IRRADIATED DRY YEAST
GUARANTEED VITAMIN D POTENCY
At least 30,000 U. S. P. Units per gram, or 16,000,000 units per pound.
GUARANTEED ANALYSIS
Protein (min.) 40.0%
Fat (min.) 0.5%
Crude Fiber (max.) 10.0%
N-Free Extract (min.) 22.0%
Ash (max.) 9.5%
Moisture (max.) 8.0%
AN ECONOMICAL SOURCE OF VITAMIN D2
Money will be refunded if not as guaranteed
STANDARD BRANDS INCORPORATED
595 Madison Ave. New York 22, N. Y.
Net Weight 100 Pounds

A rat assay for every batch stands behind our potency guarantee on Fleischmann's Irradiated Dry Yeast.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

GET YOUR COPY—

SEND COUPON TODAY!

STANDARD BRANDS INCORPORATED
Desk 8F-1. Agricultural Dept.
595 Madison Avenue, New York 22, N. Y.
Send me FREE
new informative bulletin by Dr. G. C. Wallis
"HOW VITAMIN D_2 IS MEASURED"

NAME_____

ADDRESS_____

POST OFFICE_____ STATE_____

How Farmers are using

Soluble Magnesium

in Mixed Fertilizers or for Direct Application

to increase yield and quality of crops grown on magnesium-deficient soils

Farmers and experiment stations are getting excellent results with soluble magnesium and potash in combination with other plant foods in mixed fertilizers.

Earlier maturity, healthier growth, finer quality and larger yields are often reported when soluble magnesium is used on magnesium-deficient soils. For tobacco, cotton, citrus and other fruit, potatoes, corn and truck crops, alfalfa and other legumes.

The most practical and economical way a farmer can supply the essential magnesium his crops need is to use *Sul-Po-Mag*, a natural and properly balanced combination of potash and magnesium, in soluble form and immediately available to crops.

Leading fertilizer manufacturers are finding that it pays to include magnesium in their mixtures and are using *Sul-Po-Mag* as the most satisfactory means of supplying quick-acting, water-soluble magnesium. It is also bagged for direct application where crops require additional amounts of magnesium and potash.

Sul-Po-Mag is mined and refined exclusively by *International* at its Carlsbad, New Mexico mines.

POTASH International MINERALS & CHEMICAL CORPORATION DIVISION

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

General Offices: 20 N. Wacker Dr., Chicago 6

NIAGARA SUPERFINE—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
ORTHO — California Spray-Chemical Corp., Richmond, Calif.
PERFECTION MAGNETIC 90 — Rogers & Hubbard Co., Portland, Conn.
SULPHUR SMOKE—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Plant Products Corp., Blue Point, L. I., N. Y.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

SULFUR (Flotation)

KOPPERS 45—California Spray-Chemical Corp., Richmond, Calif.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

SULFUR (Paste)

MAGNETIC "70" — Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MAGNETIC "70" — Rogers & Hubbard Co., Portland, Conn.
MAGNETIC "70" CONCENTRATED—Stauffer Chemical Co., 420 Lexington Ave., New York, N. Y.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

SULFUR (Wettable)

ACME—Acme Quality Products, Inc., Detroit 11, Mich.
BONSUL—Bonide Chemical Co., Utica, N. Y.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
COROSUL S—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
DOW—Tritox Chemical Co., Washington, Ind.
DRITOMIC—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
FLOTOX—California Spray-Chemical Corp., Richmond, Calif.
HY-TOX—Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore, Md.
KROP-SAVER—Crop Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.
MAGNETIC SPRAY—Rogers & Hubbard Co., Portland, Conn.
MAGNETIC 95, MAGNETIC SPRAY WETTABLE and CROWN—Stauffer Chemical Co., 420 Lexington Ave., New York, N. Y.
MIST BRAND — Miller Chemical Co., Omaha, Nebr.
NIAGARA KOLOFOG—Niagara Chemical Div., Food Machinery Corp., Baltimore 31, Md.
NUTONEX—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

PHENYL MERCURY COMPLEXES

ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
PURATIZED APPLE SPRAY—Rogers & Hubbard Co., Portland, Conn.
PURATIZED APPLE SPRAY and PURATURF—Gallowhur Chemical Corp., 801 Second Ave., New York 17, N. Y.
PURATIZED SPRAYS—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.
SEL-TOX—Nott Mfg. Co., Mt. Vernon, N. Y.
TAG FUNGICIDE NO. 331—California Spray-Chemical Corp., Richmond, Calif.

TETRACHLOROBENZOQUINONE

SPERGON, SPERGON-SL, SPERGON WETTABLE—Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.
SPERGON — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
SPERGON—Niagara Chemical Div., Food, Machinery and Chemical Corp., Middleport, N. Y.
SPERGON—Rogers & Hubbard Co., Portland, Conn.

THIURAM DISULFIDES

ARASAN, ARASAN SF, TERSAN—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

ZIRAM (Zinc Dimethyl Dithiocarbamate)

COROZATE—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
NIAGARA Z-C SPRAYS & DUSTS—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.
OPALATE WHITE FUNGICIDE—California Spray-Chemical Corp., Richmond, Calif.
ORCHARD BRAND — General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
ZERLATE — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
ZERLATE—Rogers & Hubbard Co., Portland, Conn.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

ZINEB (Zinc Ethylene Bis Dithiocarbamate)

DITHANE Z-78—Rohm & Haas Co., Philadelphia 5, Pa.
DITHANE Z-78—Rogers & Hubbard Co., Portland, Conn.
ORTHO PAR-S DUST 5-15—California Spray Chemical Corp., Richmond, Calif.
PARZATE — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
YELLOW DOT—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore 31, Md.

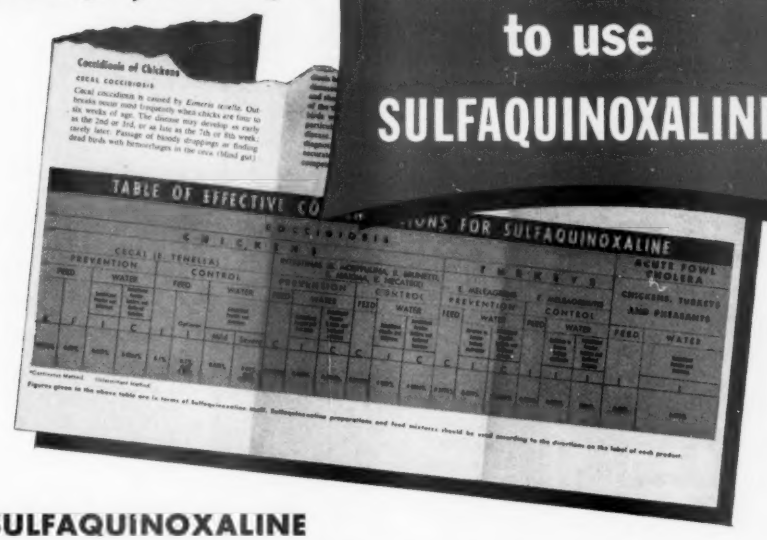
ZINC SULFATES (Basic)

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore, Md.

THIS HELPFUL LEAFLET IS

Yours Free!

. . . shows twenty-two ways to use SULFAQUINOXALINE



SULFAQUINOXALINE

The Key to Prevention and Control of Coccidiosis Outbreaks

READ how Sulfaquinoxaline works—easily . . . effectively . . . economically; how it prevents *and* controls outbreaks of cecal and intestinal coccidiosis of chickens and coccidiosis of turkeys; how it checks immediate mortality in acute fowl cholera of chickens, turkeys, and pheasants.

LEARN THE FACTS—Sulfaquinoxaline-fed flocks show better feed efficiency and better market quality; Sulfaquinoxaline is safe for meat birds and replacement pullets; it is effective the year 'round under a wide variety of climatic conditions.

ALL IN THIS FREE FOLDER, together with Table of Effective Concentrations, showing 22 ways to use Sulfaquinoxaline.

Your Feed supplier or Remedy dealer has Sulfaquinoxaline in the form of feed mixtures, premixes, solutions, tablets, or soluble powder.

Records of Effectiveness

In *86 successive broiler flocks* (equivalent to about 30 years' experience in commercial broiler production) Sulfaquinoxaline has achieved consistent performance. Throughout this concentrated study, no severe outbreaks of cecal or intestinal coccidiosis have occurred. There was no evidence that the coccidia became resistant to Sulfaquinoxaline.

MAIL COUPON TODAY

Paste on Penny Post Card or mail in envelope

Sulfaquinoxaline
MERCK
MERCK & CO., Inc. RAHWAY, N. J.
Manufacturing Chemists

MERCK & CO., Inc.
RAHWAY, N. J., Dept. SQ-BE-1

Send me a copy of your informative folder, *Coccidiosis, Its Prevention and Control with Sulfaquinoxaline.*

Name.....
(Please Print)
Street.....
Town.....R.F.D.....
County.....State.....

"Black Leaf" Warfarin

kills entire colonies of RATS

Black Leaf Warfarin is the new rat and mouse killer now receiving nationwide publicity in leading magazines, newspapers, farm papers, and technical publications.

Tasteless, odorless Black Leaf Warfarin mixes easily with any bait and never develops "bait shyness." Rats and mice continue to eat it until they die without suffering.

Because they never know what kills them, entire colonies are easily destroyed by continuous use of Black Leaf Warfarin. It's economical and highly effective. Only one part is mixed with 19 parts of corn meal, meat, fish or other acceptable bait. Developed by Wisconsin Alumni Research Foundation, this formula is backed by thousands of tests.

Black Leaf Warfarin is available in quarter-pound, half-pound and one-pound containers. Full directions on each package.

TOBACCO BY-PRODUCTS & CHEMICAL CORPORATION • RICHMOND, VIRGINIA

DEPENDABLE PEST CONTROL PRODUCTS SINCE 1885

IF YOU USE A SCREWDRIVER OR WRENCH YOU NEED AN IMPAKDRIVER! ...SENSATIONAL FOR LOOSENING OR TIGHTENING NUTS, BOLTS OR SCREWS.

HKP PORTER IMPAKDRIVER U. S. PAT. PENDING

Why waste time with screwdriver, wrench, cold chisel or hacksaw? A Porter IMPAKDRIVER starts nuts, bolts or screws that are rusted or frozen on with amazing speed and ease. Ideal, also, for loosening or tightening in hard-to-get-at places.

Hundreds of farm uses . . . tractors, dairy equipment, and all kinds of farm implements and equipment. Pays for itself on the first tough job made easy. See IMPAKDRIVER at your dealers or write for circular.

Sets with different assortments of specially designed attachments including Hex sockets to 9/16" and two sizes of Phillips and plain screwdriver bits.

H. K. PORTER, INC. Somerville 43, Mass.

Porter Cutters Porter Pruners

PORTER-FERGUSON Autobody and Fender Repair Tools

NIAGARA—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
ZC BRAND — Phelps Dodge Refining Corp., 40 Wall St., New York 5, N. Y.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Rogers & Hubbard Co., Portland, Conn.

RODENTICIDES

ANTU

BONTU—Bonide Chemical Co., Utica, N. Y.
DR. HESS ANTURAT—Dr. Hess & Clark, Inc., Ashland, O.
DR. LEGEAR'S 3 WAY RAT KILLER—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis 16, Mo.
LANTU—National Agricultural Supply Co., Fort Atkinson, Wis.
MECHLING'S—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MILLER—Miller Chemical Co., Omaha, Nebr.
PENICK—S. B. Penick & Co., 50 Church St., New York 7, N. Y.
PRENTISS—Prentiss Drug & Chemical Co., 110 William St., New York, N. Y.
RANTU—Rose Mfg. Co., Beacon, N. Y.
RAT-TOX — Rex Research Corp., 600 Montrose Ave., Toledo 7, O.
RAT-TU—Nott Mfg. Co., Mt. Vernon, N. Y.
RATTRACK (25% Antu)—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
RODAN—The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.
TECHNICAL — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.
VELO—Velodent Products Mfg. Co., Inc., 429 W. Broadway, New York 12, N. Y.

ARSENIC

ARAB LIQUID—Federal Chemical Co., Inc., 2701 Winthrop Ave., Indianapolis 5, Ind.

CHLOROPICRIN

LARVACIDE—Innis, Speiden & Co., 117 Liberty St., New York 6, N. Y.

METHYL BROMIDE

DOW—Dow Chemical Co., Midland, Mich.
Westvaco Chemical Division, Food, Machinery and Chemical Corp., 405 Lexington Ave., New York 17, N. Y.

PHOSPHORUS

ARAB—Federal Chemical Co., Inc., 2701 Winthrop Ave., Indianapolis 5, Ind.
BLUE DEATH—Bonide Chemical Co., Utica, N. Y.

RED SQUILL

CCC RAT DESTROYER—Carbola Chemical Co., Inc., Natural Bridge, N. Y.

DETHDIET—Miller Chemical Co., Omaha, Nebr.
DETHDIET & BULK—National Agricultural Supply Co., Fort Atkinson, Wis.
DETHDIET POWDER and RODINE (Liquid)—S. B. Penick & Co., 50 Church St., New York 7, N. Y.
FORTIFIED—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N. Y.
KANT LIV—Velodent Products Mfg. Co., Inc., 429 W. Broadway, New York 12, N. Y.
RAT-NOTS—Nott Mfg. Co., Mt. Vernon, N. Y.
TOPZOL—Bonide Chemical Co., Utica, N. Y.

THALLIUM

NOTT'S RAT PASTE—Nott Mfg. Co., Mt. Vernon, N. Y.

WARFARIN

AGICIDE BAIT and BASE — Agicide, Inc., 1600 Junction Ave., Racine, Wis.
ARAB RAT DETH — Federal Chemical Co., Inc., 2701 Winthrop Ave., Indianapolis 5, Ind.
ASL—National Agricultural Supply Co., Fort Atkinson, Wis.
BANARAT—American Scientific Laboratories, Inc., Box 232, Madison 1, Wis.
BLACK LEAF—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
BLACK LEAF — Miller Chemical Co., Omaha, Nebr.
BLACK LEAF—Tobacco By-Products & Chemicals, 401 E. Main St., Richmond, Va.
DETHMOR—S. B. Penick Co., 50 Church St., New York 7, N. Y.
DR. HESS WARFARAT — Dr. Hess & Clark, Inc., Ashland, O.
HOPKINS CONCENTRATE & REDI-MIX—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.
RATMASTER—Michigan Chemical Corp., St. Louis, Mich.
RAT-A-WAY—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
RAX POWDER—Prentiss Drug & Chemical Co., 110 William St., New York, N. Y.
RAT-TROL—Thompson Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
RODEX—RoKeby Chemical Co., Marietta, O.
SECURITY BRAND—Woolfolk Chemical Works, Fort Valley, Ga.

WOOD PRESERVATIVES

CREOSOTE

CARBOSOTA—Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
MILLERS REFINED — Miller Chemical Co., Omaha, Nebr.
PRESERVAL — The Ruberoid Co., 500 Fifth Ave., New York, N. Y.
No. 99 WOOD PRESERVATIVE—Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.

d-con will help you WIN the
WAR ON RATS

FAMOUS WARFARIN FORMULA

Famous University of Wisconsin Discovery Cleans Out Whole Colonies—Completely and Permanently

Warfarin will turn the tide for you in the WAR on Rats. This famous new formula, recommended by Federal depts., county agents and the farm press of America, has proved its miracle, result-producing action in hundreds of controlled and supervised tests. D-CON with Warfarin spells doom to rats and mice—it's safe to use—and results are guaranteed.

SAFE TO LIVESTOCK AND PETS

D-CON outsmarts the rats because only cumulative doses prove deadly. Tests prove that rats return for successive feedings—they cannot detect source to avoid it. Safe to livestock and pets.

MAILED IN PLAIN WRAPPER
WITH MONEY-BACK GUARANTEE

Enough D-CON WARFARIN Concentrate to make 5 lbs. of bait—enough to clear your place of rats for only..... $2.98

RUSH YOUR ORDER TODAY
d-con COMPANY
531 W. WEBSTER AVE. • CHICAGO 14, ILLINOIS

RESULTS ARE GUARANTEED

Rats are smart—they have survived all efforts to destroy them. Now with miracle working D-CON their days are numbered. D-CON will clean your place of rats in 15 days—or it won't cost you a penny. By following the simple feeding instructions, your troubles with rats and mice are over—now and for ever.

HANDY MAIL ORDER COUPON

d-con COMPANY Dept. BF-1
531 W. Webster Ave., Chicago 14, Illinois
Please ship immediately d-con WARFARIN concentrate on your money-back guarantee.
☐ Ship C.O.D. I'll pay $2.98 plus C.O.D. postage.
☐ I enclose $2.98. Please send postpaid.
NAME_____
ADDRESS_____
CITY_____STATE_____

NEW CROPS
For Better Farming

Keep up to date on new crops and latest planting tips with a FREE 2-year subscription to CROP NEWS & VIEWS. Every issue filled with information on how to get the most out of your seed and soil for bigger yields and greater profits. It's yours for the asking — just write to

SCOTT FARM SEED COMPANY
411 Mill Street, Mechanicsburg, Ohio

For EXTRA QUALITY sow Scotts

Hy-Line CHICKENS
SPUR INTEREST
in Poultry Projects

Hy-Lines spur interest in poultry projects because of the way they are bred, and the greater opportunities for profit they offer. Hy-Lines are the first chickens bred like good hybrid corn . . . by crossing superior inbred lines. Hy-Lines generally lay 2 to 6 dozen more eggs per bird per year than average chickens.

FREE CLASSROOM MATERIALS

Send today for booklet: "HOW HY-LINES ARE BRED". Reserve in advance: New sound movie in color, 16 mm. Write for name of Hy-Line Chick distributor nearest you.

HY-LINE POULTRY FARMS
A Department of Pioneer Hi-Bred Corn Co.
1218A Mulberry St., Des Moines 9, Iowa

"Lend me a hand"

JOIN the MARCH OF DIMES

Help Wanted . . .

Would you like to be an editor, an advertising manager, or an advertising salesman?

One of the nation's largest agricultural publishing organizations would like to hear from county agents and vo-ag teachers who have an interest in editorial or advertising work. Several members of its staff are ex-county agents and ex-vo-ag teachers.

If you are interested in the writing field or feel that you have unusual abilities in selling, don't miss this opportunity to learn about employment possibilities in this field.

Write now to Box Y, care of Better Farming Methods, Mount Morris, Illinois.

How to Use and Apply Methoxychlor

HOST	INSECT	SPRAY 50% Methoxychlor in Water	DUST 50% Methoxychlor	REMARKS Apply According to Local Experiment Station Recommendations
LIVESTOCK: Beef Cattle, Dairy Cattle, Hogs, Sheep	Horn Flies, Lice, Fleas, Sheep Ticks	8-30 lbs. per 100 gallons (spray or dip) or ¾-1¾ cups per gallon		Use at least two quarts per animal for thorough wetting. Cover back, belly, flanks, udder, legs, neck and head. One application will last two weeks, or longer, depending on conditions. Sprays containing 50% Methoxychlor are particularly recommended for use on dairy cattle and meat animals.
FIELD CROPS: Alfalfa	Leafhoppers, Lygus Bug (Nymphs), Alfalfa Weevil, Alfalfa Looper, Alfalfa Caterpillar	2-3 lbs. per 100 gallons	10-20	Usually at least two applications at intervals of one to two weeks are necessary. 50% Methoxychlor applications may be continued close to harvest time or grazing periods on crops used for food, feed or forage. Apply dust on alfalfa at 25 to 40 lbs. per acre, depending on density of foliage.
Corn	Earworm	2-3 lbs. per 100 gallons	10	
Cotton	Boll Weevil, Boll Worms		10-20	
Cow Peas	Pea Weevil	2-3 lbs. per 100 gallons	10	
Mint	Flea Beetles		10	
Mushrooms	Mushroom Flies		10	
Peanuts	Velvet Bean Caterpillar,	2-3 lbs. per 100 gallons	10	
Soybeans	Mexican Bean Beetle, Leafhoppers (various), Flea Beetles, Japanese Beetle, Corn Earworm, Soybean Caterpillar, Velvet Bean Caterpillar, Asrea Moth Larva, Fall Armyworm	2-3 lbs. per 100 gallons	10-15	
FRUIT: Apples	Codling Moth, Oyster Shell Scale (crawlers), Japanese Beetle, Flea Weevil	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	10	Two or more applications at intervals of one to two weeks are usually recommended. Applications may be continued close to harvest time.
Blueberries	Fruit Worm	2 lbs. per 100 gallons or 5 teaspoons per gallon		
Cherries	Fruit Worm, Fruit Fly	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	10	
Cranberries and Gooseberries	Yellow-Headed Fireworm, Black-Headed Fireworm, Leafhoppers, Fruit Worm, Fireworms, Tip Worm, San Jose' Scale (crawlers)	2 lbs. per 100 gallons or 5 teaspoons per gallon	10	
Grapes	Japanese Beetle, Grape Leaf Skeletonizer	2 lbs. per 100 gallons or 5 teaspoons per gallon	10	
Peaches	Japanese Beetle, Oriental Fruit Moth, Plum Curculio, 12-Spotted Cucumber Beetle	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	10	
Raspberries and Blackberries	Japanese Beetle, Orange Tortrix	2 lbs. per 100 gallons or 5-8 teaspoons per gallon	10-16	
VEGETABLES: Asparagus	Asparagus Beetle	2-3 lbs. per 100 gallons or 8 teaspoons per gallon	10	Usually two or more applications at intervals of one to two weeks are necessary. More frequent applications, if necessitated by unusual conditions, will not injure any of these vegetables. For control of Mexican Bean Beetle with dust, use at least 30 lbs. of 5% Methoxychlor dust per acre. Leafhoppers need only 3% Methoxychlor at 30 to 50 lbs. per acre. Up to 4 lbs. of 50% Methoxychlor per 100 gallons may be necessary to control imported cross-striped cabbage worm on broccoli. Concentrations may have to be increased if aphids are present. 50% Methoxychlor applications may be continued close to harvest time.
Beans (Lima & Snap)	Mexican Bean Beetle, Mealy Bug, Corn Earworm, Bean White Fly, Leafhoppers, Bean Pod Borer, Salt Marsh Caterpillar	2-3 lbs. per 100 gallons or 8 teaspoons per gallon	10-15	
Beets	Flea Beetles, Leafhoppers		10	
Broccoli and Cabbage	Cabbage Looper, Cross-Striped Cabbage Worm, Diamond-Back Moth, Imported Cabbage Worm, Flea Beetles, Cutworm	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	6-10	
Carrots	Leafhoppers	2-3 lbs. per 100 gallons	10	
Cucurbits (Cucumbers) (Melons) (Squash)	Cucumber Beetles (various), Squash Bug, Leafhoppers, Melon Worm, Flea Beetles, Squash Vine Borer, Pickle Worm, Lygus Bug (nymphs) Asrea Moth, Thrips	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	6-12	
Eggplant	Blister Beetles, Flea Beetles, Colorado Potato Beetle	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	10	
Lettuce	Leafhoppers	3 lbs. per 100 gallons or 8 teaspoons per gallon	10	
Peas and Cowpeas	Pea Weevil	2-3 lbs. per 100 gallons	10	
Peppers	Pepper Weevil	2-3 lbs. per 100 gallons	10	
Potatoes	Leafhoppers, Flea Beetles, Colorado Potato Beetle, Potato Tuber Moth Larva	2-3 lbs. per 100 gallons	10	
Tomatoes	Hornworm, Flea Beetles, Leafhoppers, Fruit Worm, Potato Tuber Moth Larva, Armyworms, Blister Beetles	2-3 lbs. per 100 gallons or 5-8 teaspoons per gallon	10-20	
Turnips	Flea Beetles	2-3 lbs. per 100 gallons	10	

A. W. P. A. No. 1—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

PENTACHLOROPHENOL

ANTIROT—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

DOW WOOD PRESERVATIVE — The Dow Chemical Co., Omaha, Nebr.

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

MILLER STOP-ROT — Miller Chemical Co., Omaha, Nebr.

PENTA — Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.

PENTADINE—American Chemical Paint Co., Agricultural Chemical Div., Ambler, Pa.

PERMAGARD—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

PERMAGARD — National Agricultural Supply Co., Fort Atkinson, Wis.

SANTOPHEN 20 — Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

TERMO WOOD GUARD — California Spray Chemical Corp., Ortho & Lucas Way, Richmond, Calif.

TIMBERTOX and WOODTOX—Wood-Treating Chemical Co., 5137 Southwest Ave., St. Louis 10, Mo.

COPPER NAPHTHENATE

CELLO-GARD—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

COPPERTREAT—Wood-Treating Chemical Co., 5137 Southwest Ave., St. Louis 10, Mo.

UVERSOL—Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.

INSECTICIDES

ALDRIN

Agicide, Inc., 1600 Junction Ave., Racine, Wis.

DUSTS & E. C.—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.

GENERAL—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

KROP-SAVER — Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.

ORTHO SPRAY—California Spray Chemical Corp., Ortho & Lucas Way, Richmond, Calif.

PITTSBURGH ALDRIN 20—Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.

STAUFFER'S — Stauffer Chemical Co., 636 California St., San Francisco, Calif.

SECURITY BRAND—Woolfolk Chemical Works, Fort Valley, Ga.

Julius Hyman & Company, Denver, Colo.

Rogers & Hubbard Co., Portland, Conn.

BENZENE HEXACHLORIDE

AGICIDE TRIPLE-SIX "100," "300" "3-5," "3-5-40"—Agicide, Inc., 1600 Junction Ave., Racine, Wis.

BENZAHEX—Chipman Chemical Co., Bound Brook, N. J.

LEFT: *Typical honey mesquite in pasture, Pitchfork Ranch, Spur, Texas* . . . BELOW: *Same pasture, after spraying mesquite with 2,4,5-T ester.*

Goodbye,

mesquite,

goodbye!

Honey mesquite, infesting millions of acres of rangeland, has met its master in a Monsanto herbicidal chemical, 2,4,5-Trichlorophenoxyacetic Acid. On some future day, when enough 2,4,5-T and spraying equipment are available, mesquite can become a memory . . . no longer hiding cattle gone wild . . . no longer crowding grass from grazing land . . . no longer plaguing cowboys with its thorns.

The effectiveness of 2,4,5-T in controlling honey mesquite has been proved in experiments, covering three years, at the Texas Agricultural Experiment Substation No. 7, at Spur, Texas, and the United States Department of Agriculture.

While thousands of chemicals have been tested, 2,4,5-T appears to be the *only* material that is satisfactory on *all* points. Based on its results, the experiment station says, in part:

". . . it appears that mesquite may be controlled by the application of ⅔ pound of a low volatile ester of 2,4,5-T in 1 gallon of diesel oil and 3 gallons of water."

The herbicide should be applied by an experienced man, properly equipped, during springtime when mesquite is in full leaf and making rapid growth. It appears that control will be effective for from five to ten years at an economical cost.

With present conditions, demand for 2,4,5-T Acid exceeds supply. Nevertheless, research on this and other agricultural chemicals continues unabated. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

MONSANTO
CHEMICALS for PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

BENZEX—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
COLUMBIA—Pittsburgh Plate Glass Co., Columbia Chemical Division, Fifth Avenue at Bellefield, Pittsburgh 13, Pa.
CORONA (10% BHC)—Pittsburgh Plate Glass Co., Corona Chemical Division, Milwaukee 1, Wis.
DUSTS & E. C.—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
DYOHEX—Miller Chemical Co., Omaha, Nebr.
DR. HESS SIX—Dr. Hess & Clark, Inc., Ashland, O.
GAMTOX—California Spray-Chemical

How to Use and Apply Parathion

Host	Insect	Spray—Given in terms of 15% wettable powder	Dust	Remarks
FRUIT: Apple	Codling moth, plum curculio, orange tortrix, San Jose, Forbes and scurfy scales, red-banded leaf roller (2nd-3rd broods), woolly apple aphid, mealbug.	1¾ lbs. per 100 gal. water.		Apply according to recommendations given by local experiment station.
	Bud moth, red bug, fruit tree leaf roller, (first brood), grasshoppers, and European red mite, two-spotted mite, Pacific mite, Schoenil mite, Willamette mite, and clover mite.	1 lb. per 100 gal. water.		For certain mites, such as two-spoted and Willamette, 1 peat applications at 7-10 day intervals during summer.
Pear	Pear blister mite. Pear psylla. Codling moth, mealybug, woolly aphid spider mites.	1¾ lbs. per 100 gal. water. 1 lb. per 100 gal. water. 1¾ lbs. per 100 gal. water.		Apply as pre-blossom spray. Apply either in pre- or post-blossom sprays.
Peach	Plum curculio, Oriental fruit moth, San Jose scale, peach tree borer, cat-facing insects. Fruit tree leaf roller, green peach aphid, spider mites, cottony peach scale.	1¾ lbs. per 100 gal. water. 1 lb. per 100 gal. water.		
Prune and Plum	Plum curculio. Bud moth, mealy plum louse, tortrix, leaf roller, leaf hoppers, aphids, spider mites.	2 lbs. per 100 gal. water. 1-1¾ lbs. per 100 gal. water.		
Apricot	Codling moth, Oriental fruit moth, tortrix bud moth, fruit tree leaf roller, spider mites, aphids.	1¾-3 lbs. per 100 gal. water. 1 lb. per 100 gal. water.		
Cherry	Plum curculio, cherry fruitworm, Oriental fruit moth, bud moth, tortrix, cankerworm aphid and mites.	1¾ lbs. per 100 gal. water. ¾-1 lb. per 100 gal. water.		
Grape	Mealybug, leaf folder mites.	1¾ lbs. per 100 gal. water. 1 lb. per 100 gal. water.	25 lbs. 2% dust per acre. Repeat in 5-7 days.	Make applications before fruit is the size of buckshot or after harvest.
Blueberry	Maggot, thrips.	1¾ lbs. per 100 gal. water.	30 lbs. 1% dust per acre.	Apply before fruit sets or after harvest.
Strawberry	Leaf roller, red spider mite.	1¾ lbs. per 100 gal. water.	20-35 lbs. 1% dust per acre. Repeat in 7-10 days.	No applications after fruit sets or before harvest.
VEGETABLES: Beans	Mexican bean beetle, leafhopper, aphids, red spider, armyworms, leaf roller.	1 lb. per 100 gal. water.	30-40 lbs. 1% dust per acre. Repeat in 7-10 days.	Repeat applications 7-10 day intervals until controlled.
Beet	Aphids, webworm.	1¾ lbs. per 100 gal. water.		
Carrot	Aphids.	1 lb. per 100 gal. water.	60 lbs. 1% dust per acre.	
Celery	Celeryworm, aphids.	1 lb. per 100 gal. water.	20-30 lbs. 1% dust per acre.	
Cucumber Squash Melons	Cucumber beetle, melonworm, pickleworm, serpentine leaf miner, aphids.	1 lb. per 100 gal. water.	20-40 lbs. 1% dust per acre.	Make no applications before plants start to vine.
Pepper	Aphid, serpentine leaf miner.	1 lb. per 100 gal. water.	20-30 lbs. 1% dust per acre.	
Pea	Aphid.	1½ lbs. per acre in sufficient water for good coverage.	25-35 lbs. 1% dust per acre.	
Onion	Thrips.	1 lb. per 100 gal. water.	25-35 lbs. 1% dust per acre.	Repeat as necessarw for control.
Potato Tomato	Colorado potato beetle, flea beetle, leafhopper, serpentine leaf miner, grasshoppers, whitefly, aphids.	1 lb. per 100 gal. water.	25-35 lbs. suitable fungicide dust containing 1% parathion.	
Corn	European corn borer.	3 lbs. in sufficient water for good coverage per acre.	30 lbs. 2% dust per acre.	Make no applications within 12 days of picking or harvest as forage.
	Armyworms.	1¾ lbs. per 100 gal. water.	30 lbs. 2% dust per acre.	
FORAGE CROPS: Legumes Small Grains	Aphids, armyworms, grasshoppers.	1¾ lbs. in sufficient water for good coverage per acre.	40 lbs. 1% dust per acre, depending on infestation.	Make no applications within 15 days of cutting or forage use.
FIELD CROPS: Tobacco	Aphids, suckfly.	1 lb. per 100 gal. water.	15-30 lbs. 1% dust per acre.	Make no application within 5 days of cutting. Where applications have been made within 15 days, handlers should wear gloves.
Tobacco, seedbed	Aphids.	1 lb. per 100 gal. water.	Use 1% dust, handlers wear gloves.	
Peanut	Thrips and velvetbean caterpillar.		20-30 lbs. 1% dust with sulfur diluent per acre.	Make no applications within 15 days of harvest or forage use.
Cotton	Aphids, red spider mite, fleahopper, garden webworm.		10-20 lbs. 1% dust per acre, alone, or with insecticides, depending upon pest complex.	Make no application within 15 days of harvest or forage use.
Sugar Beets	Aphids, webworm.		30 lbs. 1% dust per ace.	Make no applications within 15 days of harvest or forage use.

WARNING!
ON DECIDUOUS FRUIT CROPS, MAKE NO APPLICATIONS WITHIN 30 DAYS OF HARVEST
ON GRAPES AND BERRIES, MAKE NO APPLICATIONS AFTER FRUIT SETS OR BEFORE HARVEST
ON VEGETABLE CROPS, MAKE NO APPLICATION WITHIN 21 DAYS OF FIRST PICKING OR HARVEST

When you're asked to advise on Pest Control...

here, in convenient form, is a whole envelope full of answers

Get this: Authoritative data from the leaders in scientific pest control
THIS ENVELOPE CONTAINS fully descriptive literature covering weed control, seed treatment, fly control, fungicides, insecticides, screw worm control, defoliants, termites, etc.

ORTHO

SCIENTIFIC PEST CONTROL

REG. U. S. PAT. OFF.

☆

YOURS FOR THE ASKING

Authoritative data on many subjects dealing with modern pest control through agricultural chemicals. Compiled and assembled by ORTHO for county agents, VO-ag teachers and all agricultural leaders.

Write your nearby ORTHO field office (see list at right)

Let us put your name on the list to receive

ORTHO FIELD NEWS LETTERS

Timely, localized spray and dust programs covering fruits, vegetables, field crops and livestock.

Address your request to

CALIFORNIA SPRAY-CHEMICAL CORP.

Home Office: RICHMOND, CALIFORNIA

OTHER OFFICES:

81 S. E. Yamhill
Portland 14, Oregon

515 North Tenth Street
(P. O. Box 2227)
Sacramento, California

675 Emory Street
San Jose 10, California

3208 Hamilton Avenue
(P. O. Box 48)
Fresno, California

202 North Magnolia Avenue
(P. O. Box 471)
Whittier, California

311 Evans Street (P. O. Box 428)
Caldwell, Idaho

P. O. Box 129
Maryland Heights, Missouri

1010 East Reno Street
Oklahoma City 4, Oklahoma

326 Fennville Street
Fennville, Michigan

150 Bayway
Elizabeth 2, New Jersey

147 Railroad Avenue
Lyndonville, New York

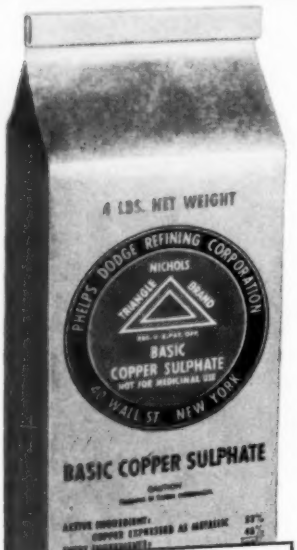
Fairvilla Road (P. O. Box 1231)
Orlando, Florida

For BETTER and SAFE Control of

BLIGHT

TRIANGLE BRAND

COPPER SULPHATE



Better Protection • • • Better Yields

Triangle Brand Copper Sulphate is dependable, safe . . . and costs *less*. Yet, by *actual field test, it gives greater yields!* That's why growers actually use more Triangle Brand copper products on their crops than any similar plant protection material. Don't be satisfied with "substitutes." Get the best—always demand Triangle Brand.

FREE! Valuable booklets: "Bordeaux Mixture"—"Bordeaux Controls Late Blight on Tomatoes"—"Better Potato Yields"—"Basic Copper Sulphate."

PHELPS DODGE REFINING CORPORATION

40 Wall Street, New York 5, N.Y.
230 N. Michigan Ave., Chicago 1, Ill.

Corp., Richmond, Calif.

HEXADOW, WETTABLE and DUST CONCENTRATE—Dow Chemical Co., Midland, Mich.

KOLKER—Kolker Chemical Works, Inc., 80 Lister Ave., Newark 5, N. Y.

KROP-SAVER — Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.

DR. LeGEAR'S ROOST PAINT—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis, Mo.

LEXONE—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore 31, Md.

NIAGARA BHC CROP SPRAY—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.

ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

PENCO BHC—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

PENICK OIL SOLUTION & EMULSION (10% Gamma) and POWDER (5% Wettable)—S. B. Penick Co., 50 Church St., New York 7, N. Y.

PITTSBURGH — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.

PRENTOX—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N.Y.

SIXIDE—Commercial Solvents Corp., 17 E. 42nd St., New York 17, N. Y.

STAUFFER'S TECHNICAL CONCENTRATES & MIXTURES — Stauffer Chemical Co., 636 California St., San Francisco, Calif.

TRIVEX T, W-50 and G-9—Westvaco Chemical Div., Food Machinery & Chemical Corp., New York 17, N. Y.

Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

National Agricultural Supply Co., Ft. Atkinson, Wis.

Rogers & Hubbard Co., Portland, Conn.

Thompson Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

CALCIUM ARSENATE

ACME—Acme Quality Paints, Inc., Detroit 11, Mich.

AA QUALITY—American Agricultural Chemical Co., 50 Church St., New York 7, N. Y.

CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.

CORONA—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

NIAGARA—Ningara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.

ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

ORTHO—California Spray-Chemical Corp., Richmond, Calif.

PENCO—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

STAUFFER'S — Stauffer Chemical Co., 636 California St., San Francisco, Calif.

CATTLE DIPS & SPRAYS

ATLAS—Chipman Chemical Co., Bound Brook, N. J.

DUPONT LIVESTOCK SPRAY & DIP NO. 30 and DAIRY CATTLE SPRAY WETTABLE POWDER—E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.

DR. LEGEAR'S DIP & DISINFECTANT and ANIMAL & BARN SPRAY—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis 16, Mo.

NIAGARA KOLOCIDE—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.

PENCO CATTLE SPRAY—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

PESTMASTER — Michigan Chemical Corp., St. Louis, Mich.

SECURITY BRAND—Woolfolk Chemical Works, Port Valley, Ga.

STOCKAID — Rex Research Corp., 600 Montrose Ave., Toledo 7, O.

STAUFFER'S STOCK DIP—Stauffer Chemical Co., 636 California St., San Francisco, Calif.

Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

National Agricultural Supply Co., Ft. Atkinson, Wis.

ZEHRUNG—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Ore.

Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

CHLORDANE

ACME 6% DUST—Acme Quality Paints, Inc., Detroit 11, Mich.

ANT-X-POWDER—Nott Mfg. Co., Mt. Vernon, N. Y.

ARAB ROACH KILLER—Federal Chemical Co., Inc., 2701 Winthrop Ave., Indianapolis 5, Ind.

BLITZ 48—RoKeby Chemical Co., Marietta, O.

BONCLOR—Bonide Chemical Co., Utica, N. Y.

CHECKPEST C-75 — Wood-Treating Chemicals Co., 5137 Southwest Ave., St. Louis 10, Mo.

CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.

CORODANE 5% DUST—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.

DOWKLOR 40% WETTABLE, 40% EMULSIFIABLE, 5% DUST—Dow Chemical Co., Midland, Mich.

DUPONT—National Agricultural Supply Co., Fort Atkinson, Wis.

DUSTS & E. C.—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.

DYOKLOR—Miller Chemical Co., Omaha, Nebr.

GOLD BEAR M4E—Swift & Co., Plant Food Division, 4115 Packer's Ave., Chicago 9, Ill.

HESSKLOR — Dr. Hess & Clark, Inc., Ashland, O.

KROP-SAVER CHLOROCIDE—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.

DR. LeGEAR'S HOG MANGE TREATMENT—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis, Mo.

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

THOMPSON-HAYWARD

FARM-TESTED CHEMICALS

PHENACIDE
(TOXAPHENE)
TOXICHLOR
(CHLORDANE)
DED-WEED
(2, 4-D)
DED-TOX
(DDT)
TRI-6
(BHC)

Thompson-Hayward is always alert to new developments in the agricultural chemical field. This constant improvement, plus formulation under strict laboratory control, assures maximum effectiveness for every product that carries the Thompson-Hayward label. Technical bulletins on all products are available without charge. You are invited to write for your free copies today.

THOMPSON-HAYWARD CHEMICAL COMPANY

AGRICULTURAL DIVISION KANSAS CITY, MISSOURI

MINNEAPOLIS • OKLAHOMA CITY • N. LITTLE ROCK • SAN ANTONIO • DES MOINES • DAVENPORT • NEW ORLEANS
ST. LOUIS • HOUSTON • DALLAS • WICHITA • MEMPHIS • CHICAGO • OMAHA • DENVER • TULSA

How To Use and Apply Chlordane

Pest	*Rate and Method of Application*	*Remarks*
Grasshoppers	Apply to foliage, three fourths to one pound of actual chlordane per acre regardless of the volume of water or diluent employed: 1 quart, 45-48 percent emulsifiable concentrate per acre. 20 lbs., 5 percent dust per acre. 2 lbs., 50 percent wettable powder per acre.	One application is usually sufficient but infested areas should be watched and retreated if necessary. Grasshoppers may be economically controlled in waste land before they move to crops of economic value.
Ants	Treat infested areas with one pound of actual chlordane per acre regardless of the volume of water or diluent employed (same as for grasshoppers)—2 percent oil solution for household use. Has been especially effective against both the Imported Fire Ant and the American Lawn Ant. For individual hill treatment introduce a 0.25 percent emulsion or 5 percent dust into the main gallery.	Large area treatments probably can be made best with the 5 percent dust and 50 percent wettable powder; inside homes and buildings the 2 percent oil solution or the emulsifiable concentrate are convenient. Spray nesting sites and runways, spray the infested areas and surfaces over which the ants are crawling, especially door jambs and window sills.
Japanese Beetle Grubs, White Grubs, and Wireworms	Apply chlordane to the infested soil at the rate of from 2-5 lbs. of actual chlordane per acre. For maximum residual action 10 lbs. actual chlordane per acre can be safely used. One application of chlordane to the soil surface may be disked in before seeding or transplanting. When applied to the soil surface, apply before a rain or wash into soil artificially. 2-5 quarts 45-48 percent emulsifiable concentrate per acre. 4-10 lbs. 50 percent wettable powder per acre. 40-100 lbs. 5 percent dust per acre.	Very effective for the control of beetle grubs in lawns and other turf areas. Does not impart objectionable odors to plant products grown in treated soil. At rates of up to 10 lbs. per acre chlordane has no noticeable effect on common grasses, particularly those grown on lawns or golf courses, spring ryegrass, soybeans, hybrid corn, evergreen nursery stock or most garden vegetables. One treatment of chlordane (at the rate of 5 lbs. per acre) will remain effective for at least two years.
Roaches, Spiders, and Silverfish	Chlordane, as either a liquid or powder formulation, should be applied to cracks, crevices, niches, and spaces in walls, furniture and equipment where roaches harbor and multiply. If possible, use a coarse wetting spray nozzle or a fine stream nozzle; thorough application with a machinist's oil can or a small paint brush has proved quite satisfactory 2 percent chlordane by weight in deodorized base oil or as a water emulsion. 2-5 percent chlordane by weight as a powder. Apply at the rate of 1 gal. per 1000 square feet or 1000 lineal feet as in the case of treating cracks and crevices. Treated areas should be thoroughly wetted.	Complete eradication of roaches has been attained with the use of chlordane. The film of chlordane left after application remains insecticidally active for many weeks in protected situations. Treatment may be repeated once a month if necessary. Dishes and food may be removed from closets and cabinets, replacing them as soon as the spray has dried.
Hornflies, and Stable flies	These flies are controlled from two to three weeks by spraying barns, sheds, stables and other resting places with a 0.5 percent chlordane emulsion or suspension. 8 quarts 45-48 percent emulsifiable concentrate or 4 lbs. of 50 percent wettable powder per 100 gallons of water	Chlordane is not repellent to flies. Do not use on dairy animals or as a spray in dairy barns. Follow sanitation practices, especially in the disposal of manure and other materials in which flies breed. A residual spray of chlordane can be applied effectively to places outside the dairy barns where flies concentrate and on the outside walls of dairy barns, on fences, in hog pens, calf barns, stables, poultry houses, on garbage cans and similar places.
House flies	Chlordane has been recommended for house fly control with certain restrictions. A spray containing 2.5% chlordane in an emulsion or wettable powder suspension should be used. Good control results have been obtained with a 2.5% chlordane emulsion used as a fly larvicide.	Chlordane has approval for use in selected portions of kitchens, such as around baseboards, windows and doors, and as a general residual spray for porches and in outbuildings. It is not recommended for indoor residual application to the entire walls and ceilings of occupied homes.
Boxelder bugs	*Nymphs*—The best method of control is to spray infested trees with one pound of actual chlordane per 100 gallons of water when the nymphs appear in large numbers. One pound of actual chlordane is equal to: 2 lbs. 50% wettable powder 2.5 lbs. 40% wettable powder 1 quart 45-48 percent emulsifiable concentrate 1 pint 72-75 percent emulsifiable concentrate *Adults* are difficult to eliminate but usually can be controlled successfully if a 5% chlordane spray is applied to the area where they crawl.	Boxelder bugs spend most of the summer feeding on the boxelder trees and usually are not considered a pest at this time. As they mature, the bugs leave the trees and seek shelter in buildings or other protected places in which they pass the winter and at this time they become a nuisance. They do no damage and are not capable of biting or harming clothing or other household articles.
Onion maggot, and maggots attacking other root-type crops	Chlordane applied as a dust or spray on the plant has proven very effective in the control of adults as well as newly hatched larvae or maggots. Use: 5% dust at the rate of 30 to 40 lbs. per acre, 10% dust at the rate of 15 to 20 lbs. per acre, or a spray containing 1 lb. actual chlordane per 100 gallons of water.	Good control results have been obtained also where chlordane has been combined with fertilizers and applied to the ground. Chlordane has been found very effective for cabbage maggot when the cabbage plants are dipped in a chlordane spray at the time of planting.
Cutworms	A chlordane dust has been used effectively. Use: 5% dust at the rate of 30 to 40 lbs. per acre. 10% dust at the rate of 15 to 20 lbs. per acre.	Some growers have placed a ring of chlordane dust around newly transplanted plants.
Lice and Ticks on beef cattle, hogs, horses, goats and sheep	Spray animals thoroughly, using a solution containing 0.5 percent actual chlordane by weight. Either an emulsifiable concentrate or a wettable powder should be used. Where a small number of animals is involved, a thorough dusting with a powder containing 5 percent actual chlordane will effect control.	The use of an "underline" attachment for power spraying results in better wetting down of the necks, briskets and between the front and hind legs.
Sarcoptic Mange on swine, dogs, cats, beef cattle, sheep and horses	Thoroughly spray with or dip the animal into an emulsion or wettable powder suspension containing 0.25 percent actual chlordane. Contaminated premises should be thoroughly sprayed at the same time with the same spray.	One treatment is usually sufficient but if new infestations should develop, a retreatment should be made.
Mosquitoes	Best results are obtained by applying a spray containing 2 percent of actual chlordane by weight to screens, walls and other places where the insects alight.	Either an oil solution or water emulsion may be used.

NIAGARA CHLORKIL—Niagara Chemical Div., Food, Machinery & Chemical Corp., Middleport, N. Y.
ORCHARD BRAND—General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
ORTHO-KLOR INSECTICIDES—California Spray-Chemical Corp., Richmond, Calif.
PEST MASTER—Michigan Chemical Corp., St. Louis, Mich.
PITTSBURGH (40% Wettable Powder and 45% Emulsion Concentrate) — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.
PLANTCHLOR—Plant Products Corp., Blue Point, L. I., New York.
PRENTOX 20% OIL SOLUBLE—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N. Y.
ROACH-TOX—Rex Research Corp., 600 Montrose Ave., Toledo 7, O.
SECURITY BRAND—Woolfolk Chemical Works, Fort Valley, Ga.
SKIL 50% EMULSIFIABLE CONCENTRATE—Gallowhur Chemical Corp., 801 Second Ave., New York 17, N. Y.
STAUFFER'S CONCENTRATES and MIXTURES — Stauffer Chemical Co., 636 California St., San Francisco, Calif.
SYNKLOR 50-W, 48-E and 5-D—Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.
SYNCHLOR and HUBKLOR—Rogers & Hubbard Co., Portland, Conn.
TOXICHLOR—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
VELSICOL 1068—Velsicol Corp., 330 E. Grand Ave., Chicago 11, Ill.
ZEHRUNG—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Conn.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 13, Md.
National Agricultural Supply Co., Ft. Atkinson, Wis.

CRYOLITE

ALCOA—Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh 19, Pa.
ALCOA—California Spray-Chemical Corp., Richmond, Calif.
ALCOA—E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
KRYAX — Woolfolk Chemical Works, Fort Valley, Ga.
HARSHAW — Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
KRYOCIDE—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.
NIAGARA—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.

DDT (Dichloro-Diphenyl-Trichlorethane)

ACME DURASPRAY and ACME DURADUST No. 50—Acme Quality Paints, Inc., Detroit 11, Mich.
AGICIDE GOLD DOT SPRAY BASE (50% wettable) and AGICIDE (25% emulsion concentrate)—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
CCC (50% wettable)—Carbola Chemical Co., Inc., Natural Bridge, N. Y.

an aid to increased crop production

Chlordane control

MEMO: The following bulletins provide detailed information covering the use of chlordane based formulations for crop protection — a necessary factor for increased crop production.

CHLORDANE BULLETINS

No. 23 CHLORDANE FOR JAPANESE BEETLE CONTROL

No. 24 CHLORDANE FOR GRASSHOPPER CONTROL

No. 27 CHLORDANE IN TOBACCO TRANSPLANT WATER

No. 30 CHLORDANE IN COMBINATION WITH FERTILIZER

No. 33 CHLORDANE FOR THE CONTROL OF ANTS

No. 35 CHLORDANE FOR ALFALFA WEEVIL CONTROL

No. 37 CHLORDANE FOR THE CONTROL OF ONION INSECT PESTS (Maggot and Thrip)

No. 38 CHLORDANE FOR SOIL INFESTING INSECT CONTROL

Consult your dealer and county agent; or write to the Velsicol Corporation for information concerning the proper formulation and application of chlordane based insecticides.

"VELSICOL"

VELSICOL CORPORATION
330 E. GRAND AVE. • CHICAGO 11, ILL.
Representatives in principal cities

THE VELSICOL CORPORATION
330 E. Grand Ave., Chicago 11, Ill.
Please send me the Bulletins checked below:

No. 23 ☐	No. 27 ☐	No. 33 ☐	No. 37 ☐
No. 24 ☐	No. 30 ☐	No. 35 ☐	No. 38 ☐

NAME_____

ADDRESS_____

CITY_____ STATE_____

Basic data for agricultural leaders on . . .

INSECT DAMAGE TO STORED WHEAT, authorities estimate, will run well over $200,000,000 on the 1950 crop. As an agricultural leader you are undoubtedly well aware of the urgent need for an effective, practical means of *preventing* this damage. If you are located in the wheat belt, you know from experience that killing weevils and the various bran bugs that attack stored wheat *after* they appear is *not* the best answer. They've done most of their damage by then – and you still have the problem of insect fragments in the flour.

Pyrenone Wheat Protectant offers an entirely new approach to this problem, as it is an effective insecticide that can be mixed directly into the grain as it goes into storage or during turning. It provides an extremely high degree of control at low cost per bushel. It can be used with complete freedom from health hazards to man and animals, or processing difficulties during milling.

While details on the many tests and demonstrations which have been run on Pyrenone Wheat Protectant cannot be given here, U.S.I. has prepared an interesting booklet that gives these details and tells how the Protectant may be applied. It is yours for the asking – just use the coupon on the right.

*Reg U.S. Pat. Off

U.S.I. INDUSTRIAL CHEMICALS, INC.
60 East 42nd Street, New York 17, N. Y.
Branches in all principal cities

When writing advertisers please mention *Better Farming Methods*

DAMAGE TO STORED CORN and other grains is a problem of even more magnitude than that with wheat. Pyrenone Grain Protectant is an insecticide similar to the Wheat Protectant but developed specifically to be applicable to a wide variety of stored grains – corn, barley, rice, oats and certain other grains and seeds.

To date, most of the field work that has been completed has been done on southern corn – both snapped and shucked ear corn. In Louisiana, Georgia and at other southern points, truly outstanding results have been achieved in controlling insect damage to stored corn of both types. On the generally troublesome snapped, or unshucked corn, numerous tests and demonstrations have shown conclusively that loss can be greatly reduced – easily and at very low cost. On shucked ear corn, an even higher degree of protection is obtained because the Protectant can be applied as a fine layer directly over the kernels.

Here again, space does not permit detailed discussion of the tests that have been run, or methods of application. A technical bulletin "The Role of Pyrenone Grain Protectant in the protection and control of insect infestation of Southern Corn in Storage," has been prepared specifically for agricultural leaders. Just check the coupon below for your copy.

CLIP AND MAIL

Please send me copies of: ☐ Preventing Insect Infestation of Grains in Storage (General). ☐ Prevent Weevil Damage in Stored Wheat. ☐ The Role of Pyrenone Grain Protectant (Southern Corn). BFM

NAME_____

STREET OR RFD_____

TOWN_____ STATE_____

Do the Job Better with Cyanamid Products

INSECT CONTROL

THIOPHOS® Parathion Insecticides protect fruit, vegetable and field crops; the *one* control for *many* pests. Sold by reputable manufacturers under their own brand names.

WEED CONTROL

AERO* CYANATE, Weed-killer kills weeds on contact in onions and other crops. Breaks down to form beneficial fertilizer elements. Relatively non-toxic to man and animals. Easily applied as a spray.

DEFOLIATION

AERO* CYANAMID, Special Grade defoliates cotton and soybeans; kills tomato foliage and potato tops to permit earlier, better harvests. Also effective in pre-emergence weed control in onions and for post-emergence weed control in canning peas and small grains.

FERTILIZATION

AERO CYANAMID, Granular forms soil-building humus when plowed under with cover crops. Nitrogen 20.6%; resists leaching; ideal for direct application. Also used to control weeds in tobacco plant beds and for other special uses.

RODENT CONTROL

CYANOGAS® A-Dust, the all-round pest-killer for farm and garden. Kills ants, rats and other pests *right in their nests or burrows.*

Write for descriptive literature

AMERICAN *Cyanamid* COMPANY

Agricultural Chemicals Division
32-E Rockefeller Plaza
New York 20, N. Y.

Branch Offices: Brewster, Fla.; 20 No. Wacker Drive, Chicago 6, Ill.; 1308 Donaghey Building, Little Rock, Ark.; 111 Sutter St., San Francisco 4, Calif.; P. O. Box 808, Winchester, Va.

*Trade-mark

How to Use and Apply Aldrin

Pest	Rate & Method of Application	Remarks
Grasshoppers	Apply to foliage, 2-3 ounces of Actual Aldrin per acre. Dilution of sprays depends on equipment used. ½ pint 23% Emulsifiable Concentrate per acre 20 lbs., 1% Dust per acre ½ lb., 25% Wettable Powder per acre	One application is usually sufficient but infested areas should be watched and re-treated, if necessary. Rangeland control is also economical and practical.
Cotton Insects Boll Weevil Tarnish Plant Bug Rapid Plant Bug Cotton Fleahopper Cutworms Grasshoppers Thrips	Apply to foliage, 0.08-0.25 pound Aldrin per acre as a Dust or Spray. Early season control requires the smaller dosage.	Consult local authorities for spray or dust schedules. For Bollworm control, add ½ pound DDT per acre. For Red Spider control, add Sulfur.

CHECKPEST W D-25 — Wood-Treating Chemical Co., 5137 Southwest Ave., St. Louis, Mo.

CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.

CORONA 50-50 W—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.

DD-IDE (20% emulsifiable) and ZIDUAL (5% in oil)—Bonide Chemical Co., Utica, N. Y.

DED-TOX — Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

DEENATE 50W—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

DEENATE—Rogers & Hubbard Co., Portland, Conn.

DEVEX W-50 (50% wettable)—Westvaco Chemical Div., Food Machinery & Chemical Corp., New York 17, N. Y.

DICKINSON (25% emulsions)—The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.

DYOCIDE—Miller Chemical Co., Omaha, Nebr.

DOW—Dow Chemical Co., Midland, Mich. GENITOX and GENITOL—General Chemical Div., Allied Chemical and Dye Corp., 40 Rector St., New York 6, N. Y.

DR. HESS SPRAY and PAINT—Dr. Hess & Clark, Inc., Ashland, O.

DR. LEGEAR'S (50% wettable)—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis 16, Mo.

KOLKER—Kolker Chemical Works, Inc., 80 Lister Ave., Newark 5, N. J.

KROP-SAVER — Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.

MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

PITTSBURGH (25% DDT Spray Concentrate, 50% DDT Dust Concentrate, 50% DDT Wettable Powder) — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.

Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

NIAGARA NIATOX (50% wettable spray or dip)—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.

PENCO WB-50—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

PERSISTOL (25% emulsifiable) and PERSISTO INSECTICIDES—California Spray-Chemical Corp., Richmond, Calif.

PEST MASTER—Michigan Chemical Corp., St. Louis, Mich.

PRENTOX (25% wettable)—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N. Y.

RESITOX, VAPONA and MISTONA—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.

ROACH-NOT — Nott Mfg. Co., Mount Vernon, N. Y.

ROKEBY (5% Blitz & 25% DDT)—Ro-Keby Chemical Co., Marietta, O.

SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

STAUFFER'S (50% wettable dust concentrates, 25% emulsifiables and mixtures) — Stauffer Chemical Co., 636 California St., San Francisco, Calif.

How To Use and Apply Chlordane

(*Continued*)

Pest	*Rate and Method of Application*	*Remarks*
Boll Weevil	Apply chlordane as a 10 percent dust at the rate of 1-1½ lbs. of actual chlordane per acre.	First applications should be made when 20 percent of the squares are punctured and at 5 day intervals as the infestation warrants.
Clothes Moths and Carpet Beetles	Using either a 2 percent chlordane oil solution or water emulsion, spray lightly but thoroughly all surfaces of fabrics to be protected, especially folds and seams. For carpet beetles, thoroughly spray the back side of rugs and crevices in the floor.	Inner surfaces of closets and storage cabinets should also be treated.
Plum Curculio	Chlordane, at the rate of 1 lb. of actual material per 100 gallons of water or as a 5 percent dust, has been successfully incorporated into spraying and dusting schedules for the control of this insect in peach and apricot orchards.	Include in cover sprays or dusts from the time the shucks are just breaking to and including those applications made one month before harvest.
Poultry Parasites	For lice, sprinkle 2 pounds of a 5 percent chlordane dust on each 100 square feet of floor space; treatment of individual birds with a 5 percent dust can also be made but is not necessary if litter treatment is used. For fowl ticks (bluebugs), bedbugs, poultry mites and southern chicken fleas, apply a 2 percent chlordane oil solution or water emulsion spray to such places as the floor, walls, yards, roost trees, nest boxes and dropping boards.	No objectionable odor or flavor has been detected by taste tests on both the meat and eggs from chlordane-treated birds. Young chicks under four weeks old should not be individually treated. Chlordane oil solutions and water emulsion sprays should be allowed to dry before the fowls go to roost.

Step Up

to an OLIVER Tractor

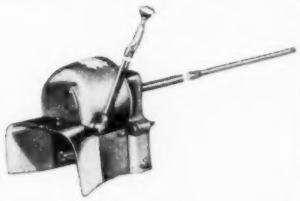
Step up into the seat of an Oliver Tractor for a new realization of what advanced design and exclusive features can give you.

The rubber-torsion spring seat cradles you in a comfortable, shockless ride. Hydra-lectric* control gives you mastery of tools to *any* depth setting at a touch of your finger . . . without leaving the seat. The Direct Drive Power Take-Off frees you from the old limitations in operating baler or combine. Extra speeds in forward and reverse . . . a high compression engine which likes to lug under load . . . the easiest steering you ever encountered . . . the list is almost endless.

Having worked an Oliver Tractor you will leave that seat with reluctance. You will be comparing any tractor you drive in the future with this *one* tractor which gives you so much more.

Oliver Dealers at the sign of the Oliver Shield are ready now to demonstrate the tractor of tomorrow that is here today. The OLIVER Corporation, 400 West Madison Street, Chicago 6, Ill.

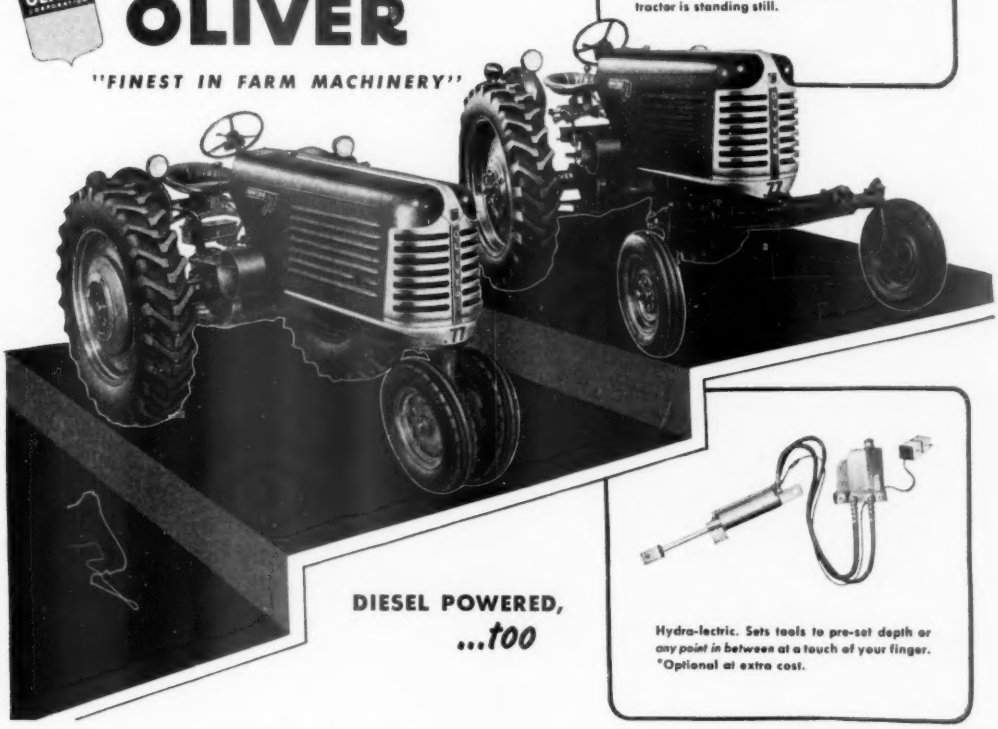
Standard on all Oliver Wheel Tractors. The extra comfort seat with torsion springs of rubber.



Only Oliver can give you this advanced feature—the Direct Drive constant running Power Take-Off. Independent of the transmission. Has its own clutch and runs when tractor is standing still.

OLIVER

"FINEST IN FARM MACHINERY"



DIESEL POWERED, ...too

Hydra-lectric. Sets tools to pre-set depth or *any point in between* at a touch of your finger. *Optional at extra cost.

How to Use and Apply Toxaphene Dusts and Sprays

Insect	*Rate and Method of Application*	*Remarks*
Aster Leaf Miner	University of California, College of Agriculture, Division of Entomology, recommends 1 qt. of 50% emulsifiable toxaphene concentrate to 100 gals. of water. 3 applications before population is allowed to build up; 4 to 5 applications where heavy infestation occurs.	
Blister Beetles	Mississippi Extension Service Leaflet 91 recommends 20% toxaphene dust at 15 to 20 lbs. per acre.	
Chinch Bug	For control of the chinch bug on wheat and barley, the Oklahoma A & M circular 514 recommends toxaphene spray at a rate of 2 lbs. of actual toxaphene per acre, or toxaphene dust to give 2.5 lbs. actual toxaphene per acre. The Florida Agricultural Experiment Station handbook recommends 1 to 1.5 lbs. of 10% toxaphene dust per 1,000 square feet for control of the chinch bug in St. Augustine grass.	
Clover Seed Chalcid	For control of stink bugs alone, and for Lygus, clover seed chalcid, and stink bugs together, Arizona recommends 20% toxaphene dust applied at a rate of 25 lbs. per acre in ground dusting, and from 30 to 35 lbs. per acre when dusting by air. Wettable toxaphene or a toxaphene emulsion is also recommended, applied at a rate of 6 lbs. of actual toxaphene to 30 to 50 gallons of water per acre.	
Garden Webworm	Kansas State College recommends 2 lbs. actual toxaphene per acre applied as emulsion spray or oil solution.	
Green Cutworm on Celery	Florida Agricultural Experiment Station handbook recommends 3 lbs. of 40% toxaphene wettable powder or equivalent per 100 gals. of water. One spray nozzle should be adjusted to spray directly into hearts of the plants.	
Lygus	The Utah Agricultural Experiment Station in M. S. No. 44, 1950, recommends 20 lbs. of 10% toxaphene dust or 1.5 lbs. of actual toxaphene per acre as a spray when necessary to control Lygus on seed alfalfa in bloom.	Apply insecticides only in early morning or late afternoon when bees are not visiting the blossoms.
Pear Thripe	University of California, College of Agriculture, Division of Entomology, recommends 2 lbs. of 40% toxaphene wettable powder to 100 gals. of water.	Sprays were applied to Elberta peaches when 90% of petals had fallen.
Serpentine Leaf Miner	Florida Agricultural Experiment Station handbook recommends 4 lbs. of 25% toxaphene wettable powder per 100 gals. of water.	This dosage was recommended for the Serpentine leaf miner on beans, tomatoes, okra, and potatoes.
Spittlebug Nymphs	The University of Wisconsin, Extension Service, College of Agriculture, recommends a 10-gallon-per-acre spray of toxaphene emulsion at a dosage of 1 to 1.5 lbs. of actual toxaphene per acre.	This recommendation is for the control of spittlebug nymphs in alfalfa fields used for first-growth seed.
Sweet Clover Weevil	University of Nebraska, College of Agriculture, recommends 10% toxaphene dust at 20 lbs. per acre; toxaphene emulsion or wettable powder at 2 lbs. of actual toxaphene per acre. Application to be made just as clover leaf buds are opening. If seedling fields are treated for migratory weevils the dusts or sprays should be applied when the first true leaves appear on the seedling plants.	
Tobacco Budworm	Florida Agricultural Experiment Station handbook recommends 10% toxaphene dust at the rate of 15 to 35 lbs. per acre. Make first application when injury is first noticed and repeat at ten day intervals or as needed.	
Tobacco Hornworm	The North Carolina Extension Circular No. 351, March, 1950, recommends a 10% toxaphene dust, applied at a rate of 15 to 25 lbs. per acre.	Avoid heavy doses just before priming.
Tomato Pinworm Tomato Hornworm	Florida Agricultural Experiment Station handbook recommends 4 lbs. of 25% toxaphene wettable powder or equivalent per 100 gals. of water. Repeat at two week intervals or as needed.	
CORN INSECTS: Cutworms	For control of cutworms on corn, the Iowa Agricultural Experiment Station recommends 2 lbs. of actual toxaphene per acre applied as a spray in low-gallonage equipment.	
Fall Armyworm	Baits may be a preferable means of controlling fall armyworms in situations where sweet corn is so tall that ground-dusting equipment is not feasible. Use a bait consisting of 5 lbs. of toxaphene per 100 lbs. of wheat bran, and apply this mixture at the rate of 35 lbs. per acre, if applied by plane; or throw in whorls of plants at the rate of about 5 lbs. per acre, if applied by hand.	
Suckfly	The USDA official publication EC-15, The Suckfly on Tobacco, recommends a dust containing 20% toxaphene, applied at the rate of 12 to 15 lbs. per acre.	
Little Fire Ant	The Florida Citrus Commission's Spray and Dust Schedule for the 1950 Season recommends ½ lb. of actual toxaphene in the form of a wettable powder per 100 gallons of water.	This spray should be applied to the trunks and main branches two weeks before picking time.

SYNDEET-30 and SYNDEET-S-30—Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.
ZEHRUNG—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Ore.
Plant Products Corp., Blue Point, L. I., N. Y.

DDT (Aersol Grade)

ARAB RESIDUAL — Federal Chemical Co., Inc., 2701 Winthrop Ave., Indianapolis 5, Ind.
CORONA (25% DDT Emulsion)—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
FLY-TOX—Rex Research Corp., 600 Montrose Ave., Toledo 7, O.
Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.
Plant Products Corp., Blue Point, L.I., N. Y.

DDD or TDE

ORCHARD BRAND — General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 2, Md.
NIAGARA DIATOX (50% wettable) and NIAGARA DIATOX (25% emulsion)—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
ORTHENE 3-D SPRAY—California Spray-Chemical Corp., Richmond, Calif.
RHOCIDE—Miller Chemical Co., Omaha, Nebr.
RHOTHANE—Rohm & Haas Co., Philadelphia 5, Pa.
RHOTHANE — Rogers & Hubbard Co., Portland, Conn.

DIELDRIN

DN-289, DN-Dry Mix, H 1 & 2 — Dow Chemical Co., Midland, Mich.
DUSTS & E. C.—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
GENERAL CHEMICAL—General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
KROP-SAVER — Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.
PITTSBURGH DIELDRIN-150 — Pittsburgh Agricultural Chemical Co., 350 Fifth Avenue, New York 1, N. Y.
SECURITY BRAND—Woolfolk Chemical Works, Fort Valley, Ga.
STAUFFER'S — Stauffer Chemical Co., 636 California St., San Francisco, Calif.
Julius Hyman & Co., Denver, Colo.
Rogers & Hubbard Co., Portland, Conn.

DINITRO COMPOUNDS

DN-289 and DN-111—Dow Chemical Co., Midland, Mich.
DN-111 and DN DUST—Rogers & Hubbard Co., Portland, Conn.
DNOC TECHNICAL—Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.
ELGETOL—Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.
NIAGARA—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.

I SAVED 2 WAYS

by modernizing with Jamesway!

REG. U.S. PAT. OFF.

Says Warner Johnson, Stewartville, Minn.

1 SAVE MONEY "I lengthened my old barn by 60 feet and completely equipped it with Jamesway automatic ventilation, stanchions, stalls, barn cleaner, water cups, salt brackets and a feed truck. Using Jamesway plans, I modernized my old barn for about a third the cost of all new construction!"

2 SAVE TIME "My Jamesway electric barn cleaner has eliminated the dirtiest, back-breaking job in the barn. Now the flip of a switch cleans my barn in about 10 minutes. By hand it would take at least an hour. Jamesway modernization has proved a real time-saver!"

Here's how you can help your farmers plan and modernize their barns!

See the Jamesway dealer in your community. He'll be glad to work with you in helping farmers with their plans for remodeling and equipping farm buildings. He'll help you show them how little it costs to modernize with Jamesway!

Jamesway

REG. U.S. PAT. OFF.

Ft. Atkinson, Wis. Mount Joy, Pa. Los Angeles 63, Calif.

FREE!

JAMES MFG. CO., Dept. BF-151
Ft. Atkinson, Wis.

Please send me 25 of your *free* folders on modernizing with Jamesway.

Name.....

Address.....

Town.....State.....

You'll SAVE PLENTY of Time and Expense!

New GULF
improved all-purpose
FARM GREASE

One Grease For All....

- **Pressure gun or grease cup jobs**
- **Better cold weather pumpability**
- **Improved resistance to effects of heat and water**
- **Satisfactory rust prevention**

Gulf's Research Laboratory spent two years in perfecting this new All-Purpose Farm Grease . . . to make it your biggest help toward more efficient machinery performance.

Save the bother and cost of several grease guns, several packages. Ask your Gulf distributor for the NEW Gulf All-Purpose Farm Grease, available in 5-lb. and 35-lb. cans.

Or write Gulf Oil Corp., Pittsburgh, Pa., for name of your nearest GULF distributor.

Did you send for your copy of the new Gulf Farm Tractor Guide?

Send the coupon, or ask your Gulf distributor for a copy when you phone for the new All-Purpose Grease.

FIFTY YEARS OF SERVICE
1901 GULF 1951
PETROLEUM AND ITS PRODUCTS

Gulf Farm Aids, Room 1509, Gulf Building, Pittsburgh 30, Pa.

Send me, free, Gulf's NEW Farm Tractor Guide.

Name_____

Street Address_____

Town_____ State_____

Make of Tractor_____ Model No._____

NITRO DORMANT OIL—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
ORTAZOL—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

DORMANT OIL SPRAYS

DENDROL—Miller Chemical Co., Omaha, Nebr.
DOW DORMANT OIL—Dow Chemical Co., Midland, Mich.
HELIX OIL, NEUTRAL OIL and NEUTRONA OIL—Shell Chemical Corp., 50 W. 50th St., New York, N. Y.
KLEENUP—California Spray-Chemical Corp., Richmond, Calif.
KROP-SAVER DORMANT OIL—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGARA EMULSO OIL—Niagara Chemical Div. Food Machinery & Chemical Corp., Middleport, N. Y.
SHELL—Rogers & Hubbard Co., Portland, Conn.
SWAN BRAND — Thompson-Hayward Chemical Works, Fort Valley, Ga.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

LEAD ARSENATE

ACME ARSENATE OF LEAD — Acme Quality Paints, Inc., Detroit 11, Mich.
BOWKER'S—American Agricultural Chemical Co., 50 Church St., New York 7, N. Y.
CARBOLA—Carbola Chemical Co., Inc., Natural Bridge, N. Y.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
CORONA—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
DOW—Dow Chemical Co., Midland, Mich.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGARA—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
ORTHO STANDARD—California Spray-Chemical Corp., Richmond, Calif.
SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
Rogers & Hubbard Co., Portland, Conn.
E. I. DuPont de Nemours & Co., Inc., Wilmington, Del.

LINDANE

AGICIDE—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
CHAPMAN—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
DOW—Dow Chemical Co., Midland, Mich.
HEXADOW-HI-GAM — Rogers & Hubbard Co., Portland, Conn.
HI-GAM W-25—Miller Chemical Co., Omaha, Nebr.
HI-GAM W-25—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.
DR. LeGEAR'S ROOSE PAINT—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis, Mo.

LINDEX—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
ORTHO—California Spray-Chemical Corp., Richmond, Calif.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 13, Md.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGARA GAMKIL—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
ORCHARD BRAND—General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
PITTSBURGH (20% Lindane Spray)—Pittsburgh Agricultural Chemical Co., 351 Fifth Ave., New York 1, N. Y.
STAUFFER'S — Stauffer Chemical Co., 636 California St., San Francisco., Calif.

METHOXYCHLOR

DUPONT—E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
DUPONT—National Agricultural Supply Co., Fort Atkinson, Wis.
GEIGY—Miller Chemical Co., Omaha, Nebr.
DR. HESS—Dr. Hess & Clark, Inc., Ashland, O.
MARLATE—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
MARLATE — Rogers & Hubbard Co., Portland, Conn.
Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.

NICOTINE SULFATE

BLACK LEAF 40 — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
BLACK LEAF 40—Miller Chemical Co., Omaha, Nebr.
BLACK LEAF 40—Rogers & Hubbard Co., Portland, Conn.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGARA (40% Nicotine Sulfate)—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
NICONA LIGHT SOLUBLE (nicotine in oil)—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

PARADICHLOROBENZENE

COLUMBIA—Pittsburgh Plate Glass Co., Columbia Chemical Div., Fifth Ave. at Bellefield, Pittsburgh 13, Pa.
MILLER MOTH CRYSTALS — Miller Chemical Co., Omaha, Nebr.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGARA—Niagara Chemical Co., Food, Machinery and Chemical Corp., Middleport, N. Y.
PARADOW, PARASCALECIDE—Rogers & Hubbard Co., Portland, Conn.

Read the startling proof . . .

aldrin's *1950 record!*

1. **In 1950,** the first year Aldrin has been commercially available, over 2,000,000 pounds have been used on cotton . . . the greatest acceptance of any cotton insecticide since the war.
2. **4 ounces of ALDRIN per acre!** Just a quarter pound of Aldrin controls boll weevils and many other pests on an acre of cotton!
3. **Kills in hours instead of days!** Aldrin's fast action gives you better control over timing. If it rains after application, you're still protected because the kill has been made.

Important . . . make sure you have enough ALDRIN for at least four applications before planting time. Mail the coupon for all the facts on this sensational new crop-saver.

SHELL CHEMICAL CORPORATION
500 Fifth Avenue, New York 17, N. Y.
Please send me the ALDRIN data.

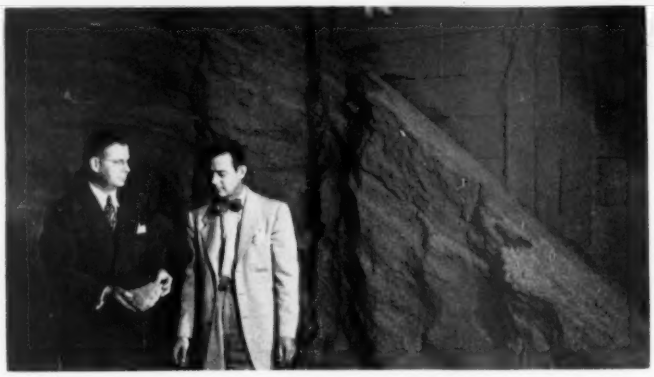
Name_____

Address_____

County_____ State_____

aldrin
SHELL CHEMICAL CORPORATION

Aldrin is manufactured by Julius Hyman & Co., and is distributed by Shell Chemical Corporation, 500 Fifth Avenue, New York 17, N. Y. Aldrin formulations are available under many insecticide brand names. Consult your local dealer and county agent.



BIG yields ahead for you!

THOUSANDS of bushels of extra yield lie figuratively in this bin of mixed fertilizer at Farm Belt Fertilizer and Chemical Company, Kansas City, Missouri. C. H. Fluty, on the right, is sales manager of the company and the man most responsible for the accurate analysis and fine mechanical condition of the product. But like many fertilizer manufacturers, Mr. Fluty is glad to have the technical advice of Spencer Chemical Company's Technical Services Department, here represented by Joe Sharp, at the left.

You—as a county agent, vocational agriculture teacher or veterans' instructor—have a big stake in mixed fertilizers. It's your responsibility to help the farmers of your community choose the right grades and apply them so as to obtain maximum response.

To learn more about the manufacture and application of commercial fertilizer, we sincerely recommend that you stop in at the plant nearest you and get acquainted. The folks who make fertilizer will be happy to answer your questions and listen to your suggestions.

WRITE FOR FREE BOOK

If you would like to add to your knowledge of mixed fertilizer, let us send you a free copy of "The Fertilizer Industry and Spencer Chemical Company." It will give you a better understanding of the scientific job your fertilizer manufacturer is doing.

Finest in SPENCER *the Field*

SPENCER CHEMICAL COMPANY
606 Dwight Building, Kansas City 6, Mo.
Please send me that free copy of "The Fertilizer Industry and Spencer Chemical Company."

Name .....

Address .....

Town ..... State .....

PARADOW—Dow Chemical Co., Midland, Mich.
SANTOCHLOR—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.
TRITOX WAX—Tritox Chemical Co., Washington, Ind.
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis, Mo.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

ORTHODICHLOROBENZENE

COLUMBIA—Pittsburgh Plate Glass Co., Columbia Chemical Div., Fifth Ave. at Bellefield, Pittsburgh 13, Pa.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MONSANTO — Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis, Mo.

PARATHION

AGICIDE DUST and SPRAY BASE—Agicide, Inc., 1600 Ju.. ..ion Ave., Racine, Wis.
ALKRON, ALKRON W and W25 (parathion 15% and 25% wettable)—Eston Chemical, Inc., 3100 E. 26th St., Los Angeles 23, Calif.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
COROTHION—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
DOW (15% wettable)—Dow Chemical Co., Midland, Mich.
GENITHION—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
KROP-SAVER—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.
MILLER—Miller Chemical & Fertilizer Corp., 100 S. Caroline St., Baltimore 31, Md.
NIAGARA PHOSKIL—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
NIRAN—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.
PENPHOS W-15—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.
PEST MASTER—Michigan Chemical Corp., St. Louis, Mich.
PHOSPHUME—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
PITTSBURGH—Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.
PLANTHION—Plant Products Corp., Blue Point, L. I., New York.
SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
STANTHION 25—Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.
STAUFFER'S CONCENTRATES and MIXTURES — Stauffer Chemical Co., 636 California St., San Francisco, Calif.
THIOPHOS—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.
VAPOPHOS INSECTICIDES—California Spray-Chemical Corp., Richmond, Calif.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Rogers & Hubbard Co., Portland, Conn.

When writing advertisers please mention *Better Farming Methods*

PARIS GREEN

ACME—Acme Quality Paints, Inc., Detroit 11, Mich.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
ORCHARD BRAND—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
SECURITY BRAND—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

PETROLEUM OIL

NIAGARA MISCIBLE OIL — Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.

PIPERONYL BUTOXIDE

ARFAX QB—Fairfield Labs., Inc., 417 Cleveland Ave., Plainfield, N. J.
FLY-TOX—Rex Research Corp., 600 Montrose Ave., Toledo, O.
DR. HESS HOUSE SPRAY—Dr. Hess & Clark, Inc., Ashland, O.
DR. LEGEAR'S FLY SPRAY—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis 16, Mo.
PYRENONE—California Spray Chemical Corp., Ortho & Lucas Way, Richmond, Calif.
PRYTOX—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
SECURITY BRAND—Woolfolk Chemical Works, Fort Valley, Ga.
RED ARROW GARDEN SPRAY—McCormick & Co., Inc., McCormick Bldg., Baltimore 2, Md.
USI—U. S. Industrial Chemical, Inc., 60 E. 42nd St., New York 17, N. Y.

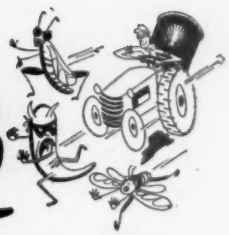
PYRETHRUM

AGICIDE GREEN DOT DUST—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
BOTANO — California Spray - Chemical Corp., Richmond, Calif.
FLY-TOX—Rex Research Corp., 600 Montrose Ave., Toledo, O.
KROP-SAVER DUST NO. 10—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.
DR. LEGEAR'S INSECT POWDER—Dr. L. D. LeGear Medicine Co., 4161 Beck Ave., St. Louis 16, Mo.
PRENTOX NO. 20—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N.Y.
USI—U. S. Industrial Chemicals, Inc., 60 E. 42nd St., New York 17, N. Y.
PYROCIDE—Rogers & Hubbard Co., Portland, Conn.
RED ARROW GARDEN SPRAY—McCormick & Co., Inc., McCormick Bldg., Baltimore 2, Md.
SWAN BRAND—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

ROTENONE

ACME GARDEN GUARD and NNOR GARDEN SPRAY—Acme Quality Paints, Inc., Detroit 11, Mich.

How to use Chemicals FOR BIGGER FARM PROFITS



Mail coupon for practical literature on these Shell Products:

D-D*: A soil fumigant. Kills root knot and other nematodes which stunt plant root systems and reduce yield.

Shell Resitoxaphene 60: An emulsive concentrate containing toxaphene—for control of armyworms, grasshoppers and cutworms.

Shell Bladex F-2: An emulsive concentrate containing TEPP—for control of aphids, thrips, mites and red spiders.

Shell Resitox D-25: An emulsive concentrate containing DDT—for effective control of corn earworm, corn borer, leafhopper and Colorado potato beetle.

Aldrin and Dieldrin: Highly effective in controlling plum curculio, thrips, mosquitoes, wireworms, ants and many other soil and plant insects.

Shell Weedkiller 130: (contains pentachlorophenol) for general weed control along fence rows, drainage ditches and farmyards.

Shell Endrop: Light soluble oil containing a proved hormone—to reduce pre-harvest drop of apples and pears.

Shell Dormant Oils: For effective control of scale and mite eggs.

**Trade Mark Reg. U. S. Pat. Off.*

SHELL CHEMICAL CORPORATION

CHEMICAL PARTNER OF INDUSTRY AND AGRICULTURE

Check the products you'd like to know more about
MAIL COUPON NOW

ATKINS-PHELPS SEED CO.
403 Magnolia St., North Little Rock, Arkansas

Please send me literature on products checked below:

☐ D-D ☐ Resitoxaphene 60 ☐ Bladex F-2
☐ Aldrin & Dieldrin ☐ Weedkiller 130 ☐ Endrop
☐ Resitox D-25 ☐ Dormant Oils

NAME_____

ADDRESS_____

How you can Plant early for BETTER CROPS

Weather, during the spring planting season, is uncertain. Warm dry days may be followed by a period of cold rains, often lasting for a week or more at a time. If you wait until the weather is warm and settled before planting vegetable and flower seeds, your crop may be late in ripening or damaged by summer drought.

The use of SPERGON and PHYGON SEED PROTECTANT will make it possible for the farmer or home gardener to plant early in the spring without danger of losing the crop by reason of seed decay or "damping-off."

SPERGON and PHYGON SEED PROTECTANT may be used on many types of field, flower and vegetable seeds.

UNITED STATES RUBBER COMPANY

Naugatuck Chemical Division

NAUGATUCK CONNECTICUT

BLACK LEAF 1% DUST—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
RO-KO—California Spray-Chemical Corp., Richmond, Calif.
CCC—Carbola Chemical Co., Inc., Natural Bridge, N. Y.
CATTLE GRUB DUST—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
CORONA DUST—Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
CUBE POWDER—Prentiss Drug & Chemical Co., 110 William St., New York, N. Y.
USI—U. S. Industrial Chemicals, Inc., 60 E. 42nd St., New York 17, N. Y.
CUBOR—Chipman Chemical Co., Bound Brook, N. J.
DUST OF AGICIDE AND CATTLE GRUB & LOUSE POWDER—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
DR. HESS LOUSE KILLER—Dr. Hess & Clark, Inc., Ashland, Ohio.
HUBROTE DUSTS—Rogers & Hubbard Co., Portland, Conn.
FLEA-NOT POWDER—Nott Mfg. Co., Mt. Vernon, N. Y.
KROP-SAVER DUST 75 R—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.
MEXIDE—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
MILLER—Miller Chemical Co., Omaha, Nebr.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 2, Md.
NIAGARA RO-KIL—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
ORCHARD BRAND "75" DUST & "400" SPRAY — General Chemical Division, Allied Chemical and Dye Corp., 40 Rector St., New York 6, N. Y.
PEST MASTER—Michigan Chemical Corp., St. Louis, Mich.
PRENTOX CUBE—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N.Y.
RED ARROW GARDEN SPRAY—McCormick & Co., Inc., Baltimore 2, Md.
RO-KO and ROTODOW—The Dow Chemical Co., Midland, Mich.
QB DUST—Bonide Chemical Co., Utica 4, N. Y.
USI—U. S. Industrial Chemicals, Inc., 60 E. 42nd St., New York 17, N. Y. (powder and resins).
ZEHRUNG—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Ore.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.
Plant Products Corp., Blue Point, L. I., N. Y.

SABADILLA

AGICIDE SABADUST—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
PRENTOX—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N. Y.
SABA-DUST NO. 20 — Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
SABANE — Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.

RYANIA

KROP-SAVER DUST 40 RX—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.
HUBBARD CORN BORER DUST—Rogers & Hubbard Co., Portland, Conn.
RYATOX—Bonide Chemical Co., Utica 4, N. Y.

SODIUM FLUORIDE

ARAB ROACH POWDER—Federal Chemical Co., Inc., 2701 Winthrop Ave., Indianapolis 5, Ind.
GENERAL CHEMICAL—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
DR. LeGEAR'S LOUSE POWDER—Dr. L. D. LeGear's Medicine.
MILLER—Miller Chemical Co., Omaha, Nebr.
NOTT'S ROACH POWDER—Nott Mfg. Co., Mt. Vernon, N. Y.
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis, Mo.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

SODIUM FLUOSILICATE

CCC LOUSE KILLER—Carbola Chemical Co., Inc., Natural Bridge, N. Y.
HARSHAW—The Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

STICKERS & SPREADERS

CP-5 DUST STICKER and COLLOIDAL Z-1 SPREADER-STICKER—E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
DUPONT—Rogers & Hubbard Co., Portland, Conn.
GOOD-RITE—B. F. Goodrich Co., 324 Rose Buildings, Cleveland 15, O.
FILMFAST—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
NIAGARA DUS-STIK—Niagara Chemical Division, Food, Machinery and Chemical Corp., Middleport, N. Y.
NU-FILM—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
SANTOMERSE S PENETRATOR—American Liquid Fertilizer Co., Inc., Marietta, O.
SANTOMERSE—RoKeby Chemical Co., Marietta, O.
SPREAD-OL—Miller Chemical Co., Omaha, Nebr.
SPREAD-OL—Silmo Chemical Co., Vineland, N. J.
SUMMER SPREADER—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
T-H—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
VATSOL—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

SUMMER OIL SPRAYS

ACME EMO-NIK—Acme Quality Paints, Inc., Detroit 11, Mich.
MEDOSOL OIL, MEDOL OIL and TRIONA OIL—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
MILLER—Miller Chemical & Fertilizer

IT'S THE *Plant Food* IN FERTILIZER

THAT PRODUCES BIGGER CROPS

The true value of a ton of fertilizer is determined by how much plant food it contains. That's why agricultural leaders and farmers have long been demanding more plant food units per ton of fertilizer.

Mathieson high analysis pelletized fertilizers meet this demand for increased concentrations of plant food—make the farmer's investment in fertilizer go farther than ever before.

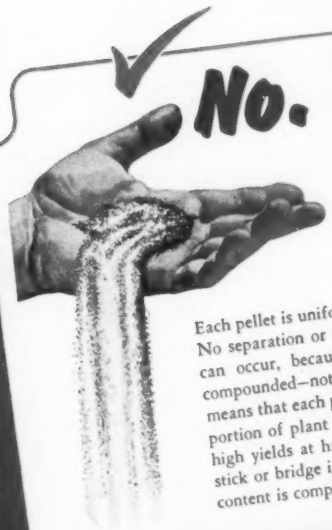
Here are a few of the money-saving, time-saving, work-saving advantages of Mathieson high analysis fertilizers:

1 They're pelletized! Modern, new pellet form containing higher concentrations of plant food offers outstanding advantages.

2 As much as 3 times more plant food per ton—resulting in savings in the cost of plant food.

3 Less hauling and storage, because less bulk is necessary for the same amount of plant food.

4 Less handling and spreading. Easier, more uniform application of plant food.



No. 1

MATHIESON HIGH ANALYSIS FERTILIZERS ARE PELLETIZED!

Modern, new pellet form containing higher concentrations of plant food offers these advantages:

Each pellet is uniform in plant food content. No separation or segregation of ingredients can occur, because pellets are chemically compounded—not mechanical mixtures. This means that each plant receives the same proportion of plant foods, resulting in uniform high yields at harvest time. Pellets will not stick or bridge in the drill. Their plant food content is completely soluble in water. They can be stored safely for long periods of time in a dry place, permitting their purchase well in advance of planting time.

Mathieson production and distribution facilities are being expanded as rapidly as possible to meet the increasing demand for these superior plant foods. Mathieson Chemical Corporation, Mathieson Building, Baltimore 3, Maryland.

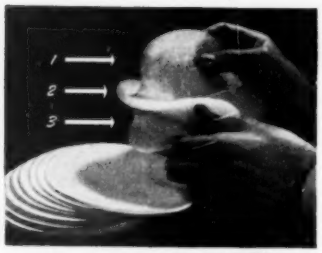
Agricultural Chemicals Division

Mathieson
CHEMICALS

SERVING INDUSTRY, AGRICULTURE AND PUBLIC HEALTH

tell all
milk producers
how to
PROTECT MILK QUALITY
THREE WAYS

WITH *Perfection* DUBL-CHEM-FACED
"Tripl-Filtring" ACTION



1. THE TOP SURFACE *Filters*
2. THE CENTER AREA *Filters*
3. THE BOTTOM SURFACE *Filters*

Only Perfection DUBL-CHEM-FACED Milk Filter Discs provide this "Tripl-Filtring" action . . . fast and thorough . . . at less cost . . . fewer filters required . . . saving of time and money at every milking . . . dependable protection of milk quality is assured *three ways!* Highest quality, low in cost, popular with top grade milk-producers . . . worthy of your endorsement.

NATIONALLY ADVERTISED . . .
over 38 million ads in 1951.

WRITE FOR FREE SAMPLES

SCHWARTZ MFG. CO. Two Rivers, Wis.
MANUFACTURERS ALSO OF
PERFECTION AND ELGRADE FILTERS

Corp., 1000 S. Caroline St., Baltimore 31, Md.
NIAGROL—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
ORNAMENTAL SPRAY OIL—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
ORTHOL-K — California Spray-Chemical Corp., Richmond, Calif.

TARTER EMETIC

HARSHAW—The Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.
STAUFFER'S — Stauffer Chemical Co., 636 California St., San Francisco, Calif.
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis, Mo.

TETRAETHYL PYROPHOSPHATE (TEPP)

ALFCO SPIVER SPRAY—RoKeby Chemical Co., P. O. Box 267, Marietta, O.
BLADEX F-2 (emulsifiable type)—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
BLADEX, GYTET-40—Rogers & Hubbard Co., Portland, Conn.
FOSVEX—Westvaco Chemical Div., Food Machinery & Chemical Corp., New York 17, N. Y.
FOSCIDE—Bonide Chemical Co., Utica 4, N. Y.
KILMITE—Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore, Md.
KROP-SAVER TEP-TOX — Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.
MULSIFOS & PYFOS—Woolfolk Chemical Works, Ltd., Ft. Valley, Ga.
NIAGARA TEPP—Niagara Chemical Division, Middleport, N. Y.
NIFOS-T—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.
PHOSPHOFUME—Plant Products Corp., Blue Point, L. I., New York.
STANPHOS 90—Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.
STAUFFER'S—Stauffer's Chemical Co., 636 California St., San Francisco, Calif.
TETRON-100—Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles 23, Calif.
Tep-X—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
TEPP-ORTHO—California Spray-Chemical Corp, Richmond, Calif.

TOXAPHENE

AGICIDE—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
ALLTOX INSECTICIDES—California Spray-Chemical Corp., Richmond, Calif.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
DUSTS & E. C.—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
GENIPHENE — General Chemical Div., Allied Chemical and Dye Corp., 40 Rector St., New York 6, N.Y.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
MILLER—Miller Chemical Co., Omaha, Nebr.
PENCO—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Penn.
PESTMASTER — Michigan Chemical Corp., St. Louis, Mich.
PRENTOX—R. J. Prentiss & Co., Inc., 110 Williams St., New York 7, N. Y.
PITTSBURGH (40% Wettable powder, 40% dust concentrate, toxaphene-60) — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.
PHENACIDE—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
RESITOXAPHENE 60 (in oil)—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
STAUFFER'S CONCENTRATES and MIXTURES — Stauffer Chemical Co., 636 California St., San Francisco, Calif.
TOXAKIL MISCIBLE—Niagara Chemical Div., Food Machinery & Chemical Corp., Middleport, N. Y.
Hercules Powder Co., Wilmington 99, Del. (raw material).
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 31, Md.

HORMONE SPRAYS

FRUIT SETTING MATERIALS

FRUITONE—The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.
FRUIT SET—Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
SEED-LESS-SET—Plant Products Corp., Blue Point, L. I., New York.
SURE-SET—Dow Chemical Co., Midland, Mich.

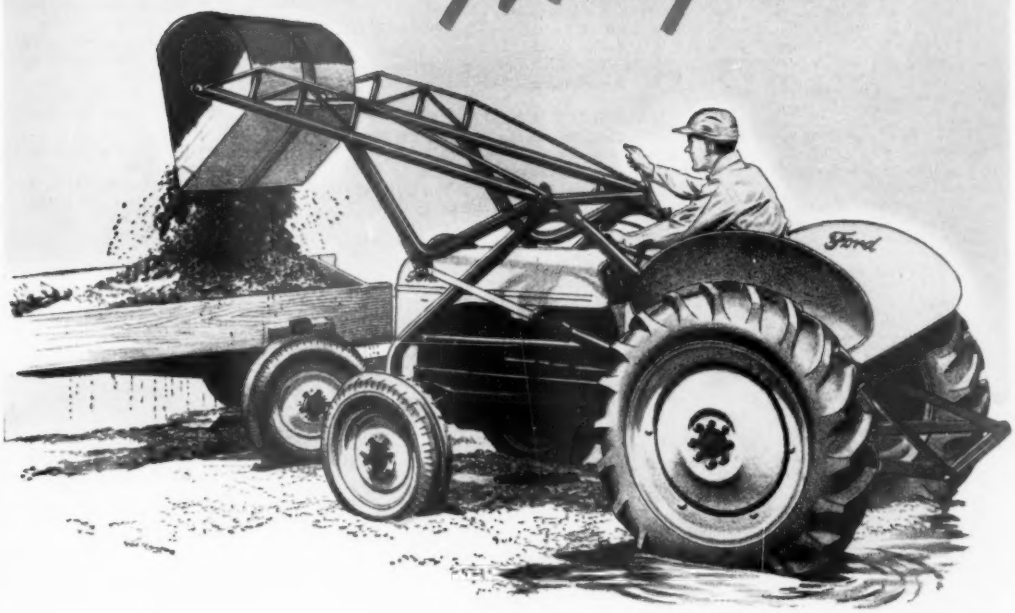
PREHARVEST SPRAYS (Naphthalene Acetic Acid)

APP-L-SET—Dow Chemical Co., Midland, Mich.
APPLE LOK, APP-L-SET, PARMONE HUBBARD HORMONE DUST—Rogers & Hubbard Co., Portland, Conn.
ENDROP—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
FRUIT-HOLD—Plant Products Corp., Blue Point, L. I., New York.
FRUIT SET—Chipman Chemical Co., Bound Brook, N. J.
FRUITONE—American Chemical Paint Co., Agricultural Chemical Div., Ambler, Pa.
FRUITONE—The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.
KLING TITE DRY and EMULSION ALPHA — California Spray-Chemical Corp., Richmond, Calif.
Mallinckrodt Chemical Works, 2nd & Mallinckrodt St., St. Louis 7, Mo.
NIAGARA-STIK—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.
NU-TONE—Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore, Md.
STAFAST—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

ROOTING COMPOUNDS

HORMODIN—Merck & Co., Inc., Rahway, N. J.
QUICK ROOT NOS. 1 & 2—Dow Chemical Co., Midland, Mich.
QUICK ROOT—Rogers & Hubbard Co., Portland, Conn.

material handling *Magic!*



PRACTICALLY every farmer works on hundreds of different jobs in the course of one year. When you analyze these jobs you'll find a common denominator . . . they all involve *handling material* of one kind or another.

For field work most farms are fairly well mechanized. The forked stick, hand hoe, cradle and flail have been replaced with plows, cultivators, combines and dozens of other implements—in most cases tractor-powered. Thus the "handling" of soil and crops is accomplished by what may be described as "modern" methods.

But this is not true of chore work, of work around the farmyard, and of dozens of odd jobs that farmers must do each year. Here you'll find all too many farmers still use such "implements" as—shovels and forks, pails and wheelbarrows, bags and baskets, ropes and pulleys.

What a difference on many Ford Tractor farms—thanks to this tractor and the exceptional line of Dearborn Material Handling Implements. The "central figures" in this line are Dearborn Loaders, one model of which is pictured here. It can be equipped with a 16-foot lift crane which will handle all sorts of heavy material; or a 9-cubic foot material bucket; or a manure fork that holds about 10 cubic feet. Whatever the load, hydraulics lift it, not muscles! What a burden it takes off the farmer's back! What a revolution it can accomplish in farm maintenance and farm improvement projects!

This is a really tremendous story . . . to get complete details we suggest you see your nearby Ford Tractor dealer.

DEARBORN MOTORS CORPORATION • Birmingham, Michigan

COPYRIGHT 1951 DEARBORN MOTORS CORPORATION

Dearborn FARM EQUIPMENT *Ford Farming* MEANS LESS WORK... MORE INCOME PER ACRE Ford TRACTOR

RESEARCH is your right-hand man

As farmers, members of farm youth organizations, as teachers or leaders, you are interested in new advances in agriculture. No matter where your interest lies, you've got a valuable "right-hand man" . . . the man in the research laboratory who works year in and year out to *improve the old; to prove the new.*

Less hauling

Over the years there have been many improvements made in plant foods. In Swift & Company's Plant Food Research Laboratory at Hammond, Indiana, every means of improvement is thoroughly explored. New formulas, new ingredients, and new methods of manufacture and quality control are constantly being tested. Each advance is tried and tested in laboratory and field before being offered to users.

Less bagging

Development of Swift's New Process High Analysis Red Steer is one of the major achievements of the Hammond Laboratory. From the user's standpoint this new plant food offers important advantages. Each bag contains more units of available plant food. This means that the user *hauls less, spreads less* and *stores less.* And the cost per unit is reduced because Swift & Company passes along to the user substantial savings in *freight, bagging* and *storage costs.*

Less storage

Swift's research in the development of High Analysis Red Steer is the result of several years' work. For a time, it was difficult to get raw materials in the correct High Analysis grades. But by 1950 these grades became available. The research had been completed . . . Swift was ready and immediately began production of certain grades of High Analysis Red Steer.

To keep yourself currently posted on new developments in the plant food field, we suggest you make it a point to get acquainted with your local Authorized Swift Agent or dealer. He has interesting case histories, literature and facts which may be of value in your work. He can also arrange a visit with one of Swift's Plant Food Field Representatives. These men are specially qualified and trained to assist you in solving any plant food problem.

Swift's New Process
RED STEER
Plant Food

Buy Swift's Plant Foods at the sign of the RED STEER

Ask about *Bienn* & Brimm Swift's Specialized Crop Makers

ROOTONE—American Chemical Paint Co., Agricultural Chemical Div., Ambler, Pa.

STIM-ROOT—Plant Products Corp., Blue Point, L. I., New York.

SPROUT INHIBITORS

Controls sprouting and shrinkage in stored potatoes.

BARSPROUT—American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

BARSPROUT—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.

BARSPROUT—Rogers & Hubbard Co., Portland, Conn.

DORMATONE—American Chemical Paint Co., Agricultural Chemical Div., Ambler, Pa.

DOW SPROUT INHIBITOR DUST—Dow Chemical Co., Midland, Mich.

MH-30—Naugatuck Chemical Div., U.S. Rubber Co., Naugatuck, Conn.

STOP SPROUT—Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

HERBICIDES

A—GROWTH REGULATORS (SELECTIVE)

ALKANOLAMINE SALTS of 2,4-D

A water soluble form of 2,4-D, generally offered in liquid solution, utilized for the control of many annual and perennial weeds with the exception of most grasses and brambles.

AGICIDE WEED WILT—Agicide, Inc., 1600 Junction Ave., Racine, Wis.

BLITZ 64 2, 4-D—RoKeby Chemical Co., Marietta, O.

2, 4 DIOWEED—Bonide Chemical Co., Utica 4, N. Y.

2, 4 DOW FORMULA 40—Dow Chemical Co., Midland, Mich.

DR. HESS WEED KILLER—Dr. Hess & Clark, Inc., Ashland, O.

NIAGARA AMSOL—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.

PINE TREE—The Albert Dickinson Co., 2750 W. 35th St., Chicago, Ill.

STANTOX 64 — Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.

WEDO—Smith Agricultural Chemical Co., Columbus 16, O.

WEEDETH—Miller Chemical Co., Omaha, Nebr.

WEEDAR 64—American Chemical Paint Co., Agricultural Chemical Div., Ambler, Pa.

WEEDMASTER—Michigan Chemical Corp., St. Louis, Mo.

AMINE SALTS of 2,4-D

(See explanation for Alkanolamine Salts)

AMINE WEED KILLER 40 (Di)—E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.

AMINE-SOL (Tri)—Woolfolk Chemical Works, Fort Valley, Ga.

CHIPMAN (2,4-D)—Chipman Chemical Co., Bound Brook, N. J.

DED-WEED 40—Thompson-Hayward Co., 2915 S.W. Blvd., Kansas City, Mo.

2, 4—DUPONT—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

KROP-SAVER (Tri)—Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.

KATHON M-7 (Di)—Rohm & Haas Co., Philadelphia 5, Pa.

KOLKER (Mono) (Tri)—Kolker Chemical Works, Inc., 80 Lister Ave., Newark 5, N. J.

LIQUID WEEDAWAY 40 (Di)—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

PENCO 4.00 WEED KILLER—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia, Pa.

STAUFFER'S ALKYL—Stauffer Chemical Co., 636 California St., San Francisco, Calif.

TUFOR, TUFOR 40—Rogers & Hubbard Co., Portland, Conn.

2, 4-D — ZEHRUNG AMINE — Zehrung Chemical Co., 2001 N. W. 20th, Portland, Ore.

WEED-B-GON 64 WEED KILLER (Mono) — California Spray-Chemical Corp., Richmond, Calif.

WEEDMASTER (Tri)—Michigan Chemical Corp., St. Louis, Mich.

Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

ESTERS of 2,4-D

Oil soluble forms of 2,4-D, generally offered as water emulsifiable solutions, for the control of many annual and perennial weeds with the exception of most grasses and brambles. Especially useful for the control of hard-to-control perennials and woody species.

AGRICULTURAL WEED-NO-MORE (Butyl)—Acme White Lead & Color Works, 8250 St. Aubin Ave., Detroit 11, Mich.

CHIPMAN 2, 4-D (Isopropyl)—Chipman Chemical Co., Bound Brook, N. J.

BLITZ (Isopropyl) 44 2, 4-D—Rokeby Chemical Co., Marietta, Ohio.

CRAB-NOT (Butyl)—Nott Mfg. Co., Mount Vernon, N. Y.

DED-WEED (ME-5) — Thompson-Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

ESTERCIDE 330 (Isopropyl)—California Spray-Chemical Corp., Richmond, Calif.

ESTERON 44 (Isopropyl)—Dow Chemical Co., Midland, Mich.

ESTER WEED KILLER 44—(Isopropyl) and ESTER WEED KILLER 40 and 80—Pittsburgh Agric. Chemical Co., 350 Fifth Ave., New York, N. Y.

ESTERON 44 (46% Ester) (Isopropyl) —Rogers & Hubbard Co., Portland, Conn.

GENERAL CHEMICAL—General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

IVY-KILL (Isopropyl)—Plant Products Corp., Blue Point, L. I., New York.

KATHON T-40—(Isopropyl)—Rohm & Haas Co., Philadelphia 5, Pa.

KOLKER (Isopropyl and Butyl)—Kolker Chemical Works, Inc., 80 Lister Ave., Newark 5, N. J.

KROP-SAVER (Isopropyl)—Crop Saver Chemical Co., Inc., 3511 W. Potomac Ave., Chicago 51, Ill.

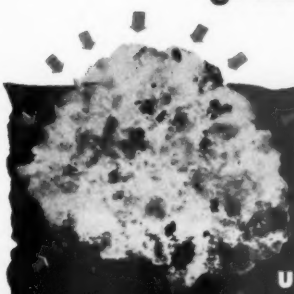
Now flocks large and small can

GRIND OUT MORE

from every bag of feed

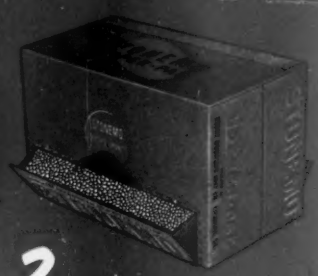
with STONEMO

granite grit



Extra Grinding Surfaces on this Hard Insoluble Grit help birds use feed better for faster gains...at less cost!

1 FOR LARGE FLOCKS
the STONEMO ECONOMY 80-lb. bag.



2 FOR SMALL FLOCKS
the STONEMO 10-lb. HOPPER-PAK.

Because **STONEMO** is now packaged two ways, every flock owner you serve can help his birds use feed better, at less cost.

The 10-lb. **HOPPER-PAK** is just right for the small flock or as a sampler for larger flocks.

The 80-lb. bag is the more economical size for larger flocks.

STONEMO not only grinds feed finely—but is insoluble. It can't upset mineral balance of rations. Its extra grinding surfaces are always hard and sharp cutting.

STONEMO is available at feed and poultry supply dealers everywhere.

RECOMMEND THIS GRIT FEEDING PROGRAM

Have your poultrymen give their flocks STONEMO right from the start—sprinkled on the mash for the first five days—then have them place HOPPER-PAKS for free choice. Each HOPPER-PAK contains 10-lbs. of Hard Granite Grit—just enough for 100 chicks to the age of 3½ to 4 weeks. After that poultrymen should make STONEMO available in hoppers filled from the 80-lb. economy bag—a proper ratio is 1 foot of grit hopper for every 4 feet of feed hopper. Your poultrymen will see for themselves how this STONEMO grit feeding program can pay off handsomely in increased profits.

FREE NEW VO-AG COUNTY AGENT KIT includes special "Question and Answer" Bulletin which gives many helpful facts about grit. Send for your kit now. Address Dept. BF-1.

STONE MOUNTAIN GRIT COMPANY
LITHONIA, GA.
BARRE, VT.

STONEMO—The Grit with the EXTRA GRINDING SURFACES

Vo-Ags, County Agents

Don't Miss SECOND ANNUAL

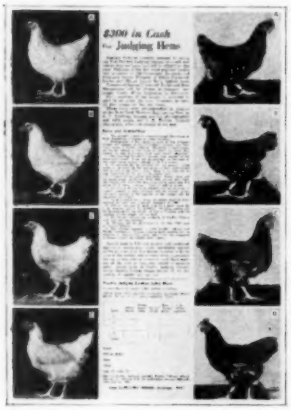
Poultry Judging Contest

$300 IN PRIZE MONEY

for FFA and 4-H'ers

All Vo-Ag students, FFA and 4-H Club members in the United States are invited to participate in the Second Annual Poultry Judging Contest, sponsored by Poultry Tribune (east of Rockies) and Pacific Poultryman (for seven west coast states).

The Senior division (over 21) of this contest is open to your farmers, older Vo-Ag students and veteran trainees.



The December 1950, January and February 1951 issues of Poultry Tribune and Pacific Poultryman will contain judging contest pictures as follows: December issues show White Rocks and Rhode Island Reds; January, Barred Rocks and New Hamps; and February, Single Comb White Leghorns.

USE REPRINTS AS TEACHING AIDS

You'll find these contest reprints valuable as teaching aids, in addition to giving an opportunity for cash prices. REPRINTS of contest pages will be available along with complete contest rules. Write for as many blanks as you have persons wishing to enter either Junior or Senior Divisions.

CONTEST CLOSES February 15.

. . . Live in the PACIFIC AREA?

If you live in Washington, Oregon, California, Arizona, Nevada, Utah or Idaho . . . send your requests for reprints and entries to Pacific Poultryman, Palo Alto, California.

Separate prizes are offered, in both senior and junior divisions, to entrants living in the Pacific area.

Write today for complete details—or see your latest copy of Poultry Tribune or Pacific Poultryman.

SPONSORED JOINTLY BY

Poultry Tribune & Pacific Poultryman

Mount Morris, Ill. ..... Palo Alto, Calif.

MILLERS WEEDESTER (Butyl) and MILLERS (44% Isopropyl) — Miller Chemical Co., Omaha, Nebr.

NIAGARA ESTASOL—Niagara Chemical Div., Food Machinery Corp., Middleport, N. Y.

PENCO 3.34 and 2.65 Weed Killer (Butyl) (Isopropyl) — Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

PINE BRAND—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.

STAUFFER'S (Isopropyl)—Stauffer Chemical Co., 636 California St., San Francisco, Calif.

WEEDKILLER 40 (Isopropyl) — Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.

WEEDMASTER (Isopropyl) — Michigan Chemical Corp., St. Louis, Mich.

WEEDONE and WEEDONE CONCENTRATE 48 (Ethyl)—American Chemical Paint Co., Agricultural Chemical Div., Ambler, Pa.

2, 4-D-ZEHRUNG (Isopropyl)—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Ore.

Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

(Isopropyl)—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

SODIUM SALTS of 2,4-D

A water soluble form of 2,4-D, generally offered as a powder, utilized for the control of many annual and perennial weeds with the exception of most grasses and brambles.

DANDY-KILL — Plant Products Corp., Blue Point, L. I., New York.

DUPONT (83% Sodium) — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

KILBRUSH 8-16—Bonide Chemical Co., Utica 4, N. Y.

MONOHYDRATE — Pittsburgh Agricultural Chemical Co., 350 Fifth Ave., New York 1, N. Y.

PINE TREE—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.

WEEDAWAY 60—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.

Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

AMINE SALTS of 2,4,5-T

Water soluble forms of 2,4,5-T, useful for the control of many annual and perennial weeds including brambles. Not suitable for the control of most grasses.

DUPONT 2, 4, 5-T (Tri)—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

KOLKER (Mono) — Kolker Chemical Works, Inc., 80 Lister Ave., Newark 5, N. J.

ESTERS of 2,4,5-T

Oil soluble form of 2,4,5-T generally offered as water emulsifiable or oil dilutable solutions. Especially useful for the control of woody species (brush) and brambles. Not suitable for the control of most grasses.

2, 4, 5-T BRUSH KILLER 43 (Isopropyl) — Pittsburgh Agricultural Chemical

Co., 350 Fifth Ave., New York 1, N. Y.
BUTOXY ETHANOL—American Chemical Paint Co., Amber, Pa.
CHIPMAN 2, 4, 5-T (Isopropyl)—Chipman Chemical Co., Bound Brook, N. J.
DED-WEED E245 BRUSH KILLER (Isopropyl)—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
DED-WEED E 245 (Isopropyl)—Thompson Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
DUPONT 2, 4, 5-T (Isopropyl)—The Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
ESTERCIDE-T 245 WEED and BRUSH KILLER (Isopropyl)—California Spray-Chemical Corp., Richmond, Calif.
ESTERON 245 (Butyl)—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
ESTERON 245 (Butyl)—Dow Chemical Co., Midland, Mich.
KOLKER (Isopropyl and Butyl)—Kolker Chemical Works, Inc., 80 Lister Ave., Newark 5, N. J.
STAUFFER'S — Stauffer Chemical Co., 636 California St., San Francisco, Calif.
ZEHRUNG 2, 4, 5-T BLACKBERRY VINE KILLER—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Ore.
MILLERS 2, 4, 5-T—Miller Chemical Co., Omaha, Nebr.
STANTOX P-44 (Isopropyl)—Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.
WEEDAWAY BRUSH KILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
WEEDMASTER (Isopropyl) — Michigan Chemical Corp., St. Louis, Mich.
Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.
(Isopropyl)—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

B—CONTACT WEED KILLERS (IN GENERAL, NON-SELECTIVE)

AMMONIUM SALT OF DINITRO-O-SEC-BUTYLPHENOL

SINOX W—Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.
Dow Chemical Co., Midland, Mich.

AMMONIUM SULFAMATE

AMMATE — Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
AMMATE—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.
AMMATE—Miller Chemical Co., Omaha, Nebr.

DINITRO-O-SEC-BUTYLPHENOL

Used to kill above-ground vegetation and as a pre-emergence spray. Offered as water emulsifiable oil solution.

DOW GENERAL WEED KILLER—Dow Chemical Co., Midland, Mich.
KILL-TOX 55—Veith Chemical Co., 2050 McKinley Ave., Fresno, Calif.
SINOX GENERAL — Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.

How to Use and Apply Toxaphene Dusts and Sprays

Insect	*Rate and Method of Application*	*Remarks*
COTTON INSECTS: Armyworms Boll weevil Bollworm Cotton aphid Cotton flea hopper Cotton leafworm Cutworms Lygus Pink Bollworm Rapid plant bug Southern green stink bug Tarnished plant bug Thrips Western cotton plant bug White-lined sphinx	In general, official recommendations of the leading cotton-growing states call for 10 pounds of 20% toxaphene dust per application per acre against the boll weevil, bollworm, cotton aphid, cotton leafworm, and southern green stink bug. For the cotton flea hopper, rapid plant bug, tarnished plant bug, and thrips, 10 pounds of 10% toxaphene dust per application per acre is recommended. Where the red spider is present, include at least 40% conditioned dusting sulphur in a toxaphene formulation. In addition to the recommended cultural practices for controlling the pink bollworm, Texas recommends a toxaphene-DDT combination applied as a spray at a rate of 1.5 lbs. actual toxaphene and 1.5 lbs. DDT per acre. For armyworm and cutworm control, Texas recommends 10% toxaphene dust at 20 lbs. per acre or toxaphene emulsion spray applied to give 1 to 2 lbs. actual toxaphene per acre.	Apply toxaphene poison in calm air under favorable weather conditions. Set nozzles 6 to 8 inches above the tops of the plants. In airplane dusting, be sure that swathes meet and overlap.
Grasshopper	The USDA official publication, EC-11, 1950, recommends the application of from 1 to 1.5 lbs. of actual toxaphene per acre when used as a spray, or from 1.5 to 2.5 lbs. per acre when used as a dust—depending upon the height and density of vegetation. These dosages have given high initial kills and residual action lasting 1 to 3 weeks under a wide variety of conditions, and are recommended to farmers for general use. A slight increase in the dosage of both sprays and dusts may be necessary late in the season, when most of the grasshoppers are adults and vegetation is maturing. Dry bait containing 1 lb. of toxaphene per 100 lbs. of coarse bran when applied at a rate of 5 to 10 lbs. per acre will give as good initial control and will remain effective longer than a standard wet bait containing 6 lbs. of sodium fluosilicate applied at the recommended rate. An effective wet bait can be prepared by mixing 1 lb. of toxaphene in emulsion form with 25 lbs. of mill-run bran and 3 times the volume of sawdust (approximately 3½ bushels). Enough water is used to make a damp, crumbly mass. Wet bait should be applied at a rate of 20 lbs. per acre.	Toxaphene insecticides can be used to advantage on infestations of young grasshoppers found on roadsides, canal banks, field margins, or idle land bordering cultivated fields. Spray or dust these infestations when the main hatch is completed or when the young 'hoppers begin to move off the hatching grounds, and thus greatly reduce the acreage to be treated. Toxaphene also prevents grasshoppers from damaging corn and other crops if field margins are treated before the 'hoppers move in.
Sugar Beet Webworm	The Montana State College Experiment Station recommends a toxaphene spray applied at the rate of 1 to 1.5 lbs. of actual toxaphene per acre, as being very effective in the control of sugar beet webworm larvae. The Wyoming Agricultural Extension Service also recommends 1.5 lbs. of actual toxaphene per acre when used as a spray, or 10% toxaphene applied at the rate of 25 to 30 lbs. per acre when used as a dust.	Toxaphene sprays or dusts are very effective in the control of sugar beet webworm larvae if applied in such a manner as to give good coverage to the underside of the beet leaves. Covering the underside of the leaves thoroughly is important, because a majority of the young larvae feed on this part of the leaves.
Salt-Marsh Caterpillar	The Arizona recommendations call for a dust mixture of 15% toxaphene, 5% DDT, and 40% 325-mesh conditioned sulfur. This is applied at a rate of 15 lbs. per acre. Toxaphene emulsion applied at the rate of 3 lbs. of actual toxaphene per acre has also been effective in controlling this insect.	Apply toxaphene insecticides to crops by means of dusting or spraying equipment so that a uniform distribution is obtained. Apply in calm air, under favorable weather conditions, at any time during the day. Set nozzles 6 to 8 inches above the tops of plants.
Armyworms	In general, the USDA and several states recommend: DUST—For control of various species of armyworms and the variegated cutworm, use a dust containing 20% toxaphene and apply at rates of from 10 to 20 lbs. per acre, depending upon the crop. SPRAY—Apply the correct amount of toxaphene emulsion to give 2 lbs. of actual toxaphene per acre with good coverage. BAIT—In some situations, such as armyworm infestation of cornfields, where the sweet corn is so tall that ground-dusting equipment is not feasible, baits may be a preferable means of control. Use a bait consisting of 5 lbs. of toxaphene per 100 lbs. of wheat bran, and apply this mixture at the rate of 35 lbs. per acre, if dusted by plane; or throw in whorls of plants at the rate of about 5 lbs. per acre, if applied by hand.	
PEANUT INSECTS: Leafhopper Velvetbean Caterpillar Fall Armyworm Thrips	The Alabama Extension Service recommends four applications of a dust containing 10% toxaphene. Apply at a rate of 20 to 25 lbs. per acre. In general, excellent control on peanuts has been obtained by the use of 10% toxaphene dust applied at a rate of 10 to 20 lbs. per acre. The Coastal Plain Experiment Station, Tifton, Ga., recommends the use of 12 to 15 lbs. of 20% toxaphene poison per acre. Experiments performed during 1948-49 at Alabama Polytechnic Institute, Auburn, Ala., have shown that thrips can be controlled with a 10% toxaphene dust applied at the rate of 20 to 25 lbs. per acre.	The Alabama Extension Service reports that peanut insects can be controlled and higher yields realized from peanut crops through the use of toxaphene (chlorinated camphene containing 67-69% chlorine) dusts, especially if the expected yield is 1,000 lbs. or more per acre. If the yield is less than 1,000 lbs. per acre, other practices that increase peanut yields may be more profitable than dusting. Insecticides should not be used on peanuts that are to be harvested and used for forage within 30 days.
ALFALFA INSECTS: Alfalfa Weevil	Colorado A & M College recommends toxaphene spray on stubble or when growth of first crop is not over 3 to 6 inches high.	

For **DEPENDABLE FORMULATIONS** *use* PESTMASTER WEEDMASTER

Basic in the manufacture of DDT and other agricultural chemicals, Michigan Chemical Corporation's Pestmaster and Weedmaster products are your guarantee of consistently dependable formulations. Call on Michigan Chemical for your agricultural chemical formulating problems.

	• DDT	Technical—Wettable powder concentrates—Dust concentrates—Emulsifiable oils—Solvent concentrates
	• BHC	Technical—Wettable powders—Dust concentrates
PESTMASTER	• CHLORDANE	Wettable powders—Emulsifiable oil concentrates—Solvent concentrates
	• TOXAPHENE	Wettable powders—Dusts
	• PARATHION	Wettable powders—Emulsifiable oils
	• 2, 4-D	Amine and ester emulsifiable concentrates
	• 245-T	Ester emulsifiable concentrates
WEEDMASTER	• BRUSH KILLERS	Mixture of 2, 4-D and 245-T esters
	• TCA	Sodium salt technical
	• SOIL FUMIGANT 1	Methyl bromide—chloropicrin mixture for plant seed bed treatment
FUMIGANTS	• METHYL BROMIDE	A superior fumigant for Agricultural and Industrial uses.

MICHIGAN CHEMICAL CORPORATION, SAINT LOUIS, MICHIGAN

Manufacturers of ORGANIC AND INORGANIC BROMIDES, SALT, MAGNESIUM OXIDES, LIQUID CALCIUM, MAGNESIUM CHLORIDE, DDT AND OTHER PHARMACEUTICAL, INDUSTRIAL AND AGRICULTURAL CHEMICALS

LIVESTOCK–*Judging Pictorials*

Judging pictorials, which have been featured in Better Farming Methods, are available to agricultural leaders.

We now have judging pictorials of New Hampshires (chickens), Guernsey Cows, Jersey Cows, Holstein Cows, Brown Swiss Cows, Milking Shorthorn Cows, Polled Herefords, Hampshire Ewes, Berkshire Gilts, Angus Cows, Percheron Horses, Columbia Sheep, Hampshire Gilts, Hereford Heifers, Berkshire Gilts, Class II, Brahman Heifers, Corriedale Ewes, Duroc Jersey Barrows, Duroc Gilts, Class II, Hereford Steers, Jersey Cows, Class II, Shorthorn Bulls, Angus Bulls, Shorthorn Heifers, Shropshire Ewes, Southdown Market Lambs, Tamworth Gilts and Yorkshire Gilts. Price, 5 cents each.

Send check or money order. No COD shipments.

Better Farming Methods **Mount Morris, Ill.**

PENTACHLOROPHENOL

Generally used to fortify herbicidal oils. Kills above-ground vegetation.

KILL-TOX 20—Veith Chemical Co., 2050 McKinley Ave., Fresno, Calif.
MILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
PENTA—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
SANTOPHEN 20—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.
WEEDKILLERS 30, 35, 130—Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.
WEEDMASTER—Michigan Chemical Corp., St. Louis, Mich.
ZEHRUNG—Zehrung Chemical Co., 2201 N. W. 20th, Portland, Conn.

SODIUM ARSENITE

ACME WEED KILLER—Acme White Lead & Color Works, 8250 St. Aubin Ave., Detroit 11, Mich.
ALFCO CRAB GRASS KILLER—American Liquid Fertilizer Co., Inc., Marietta, O.
ARTOX—Nott Mfg. Co., Mt. Vernon, N. Y.
CHIPMAN (ATLAS "A")—Chipman Chemical Co., Bound Brook, N. J.
F & B WEED KILLER—Faesy & Besthoff, 220 E. 42nd St., New York, N. Y.
FAIRMOUNT—Rose Mfg. Co., Beacon, N. Y.
MILLER—Miller Chemical Co., Omaha, Nebr.
PENITE 6 54%—Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.
SODITE ARSENICAL POISON—California Spray Chemical Corp., Ortho & Lucas Way, Richmond, Calif.
SWAN BRAND SOLUTION NO. 40—Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Mallinckrodt Chemical Works, Second & Mallinckrodt Sts., St. Louis, Mo.

SODIUM PENTACHLOROPHENATE

Water soluble salt, generally furnished in flake form. Used to kill above-ground vegetation.

DOWICIDE G—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
SANTOBRITE—Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

C—GRASS KILLERS

TCA (Sodium)

ACP GRASS KILLER—American Chemical Paint Co., Amber, Pa.
AGICIDE TCA—Agicide, Inc., 1600 Junction Ave., Racine, Wis.
DOW—Miller Chemical Co., Omaha, Nebr.
DUPONT 90%, DOW 90%—Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
ORTHO TCA—California Spray Chemical Corp., Ortho & Lucas Way, Richmond, Calif.
SODIUM TAC 90%—Chapman Chemical, 707 Derman Bldg., Memphis 3, Tenn.
SODIUM TCA 90%—Dow Chemical Co., Midland, Mich.

STANTOX—Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J.
WEEDMASTER—Michigan Chemical Corp., Saint Louis, Mich.
Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.

POTASSIUM CYANATE

AERO — American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.
CRAB-NOT—Nott Mfg. Co., Mount Vernon, N. Y.
DED-WEED CRABGRASS KILLER—Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
GENERAL CHEMICAL—General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
KRAB—Bonide Chemical Co., Utica 4, N. Y.
MILLERS CRABGRASS KILLER—Miller Chemical Co., Omaha, Nebr.
P-C WEED KILLER—Miller Chemical & Fertilizer Corp., 1000 S. Caroline St., Baltimore 31, Md.
WEEDONE — The American Chemical Paint Co., Amber, Pa.
WEEDONE—The Albert Dickinson Co., 2750 West 35th St., Chicago, Ill.

MITICIDES

DINITRO-O-CRESOL

DN DRY MIX NO. 2—Rogers & Hubbard Co., Portland, Conn.
NIAGARA DRY—Niagara Chemical Division, Food, Machinery and Chemical Division, Middleport, N. Y.

DINITRO-O-CYCLOHEXYLPHENOL

Wettable powders of the free phenol and the dicyclohexyl amine salt used in sprays for the control of most plant-feeding mites. Also available in dust preparations. Major crops used on: apples, peaches and citrus.
DN DRY MIX NO. 1—Rogers & Hubbard Co., Portland, Conn.
NIAGARA SUMMER DINITRO—Niagara Chemical Division, Food, Machinery and Chemical Division, Middleport, N. Y.

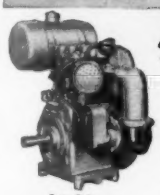
SULFUR

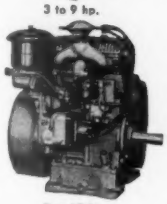
Occasionally used as a spray or dust for the control of certain plant-feeding mites.

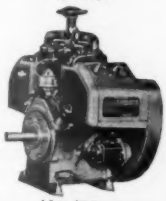
BONSUL—Bonide Chemical Co., Utica, N. Y.
CHIPMAN—Chipman Chemical Co., Bound Brook, N. J.
DOW MIKE—Chapman Chemical Co., 707 Derman Bldg., Memphis 3, Tenn.
KROP-SAVER — Crop-Saver Chemical Co., Inc., 1600 E. Davis St., Arlington Heights, Ill.
MICO — Miller Chemical & Fertilizer Corp., 1000 S. Caroline, Baltimore, Md.
NIAGARA KOLODUST—Niagara Chemical Division, Food, Machinery and Chemical Division, Middleport, N. Y.
ORCHARD BRAND—General Chemical Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

This WISCONSIN-POWERED

Sprayer-Duster
Lays a "Smoke Screen" that "Curls Up" Insect Pests!


3 to 9 hp.


7 to 13 hp.


15 to 30 hp.

Laying down a cloud of ground-hugging spray-dust over a couple of dozen rows rates a "well done" on any farm for this compact unit . . . the Buffalo Turbine Sprayer-Duster built by Buffalo Turbine, Gowanda, N. Y.

By recommending Wisconsin Air-Cooled Engines as power components on new or re-designed equipment or as separate power units, you're endorsing the judgment of the majority of builders and buyers in the farm field. Such features as thrust-absorbing tapered roller bearings at both ends of the crankshaft . . . foolproof any-climate air-cooling . . . an OUTSIDE magneto with impulse coupling for quick all-season-starting are a few of the factors that qualify Wisconsin power for heavy-duty, general purpose farm service.

Write today for Wisconsin Engine literature for your "power file." 4-cycle single-cylinder, 2-cylinder, and V-type 4-cylinder models, 3 to 30 hp.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46 WISCONSIN

BOSTROM IMPROVED FARM LEVEL

Accurate, Durable and Complete for Terracing, Ditching, Irrigating, Tile Draining, Grading, Running Lines, Turning Angles and etc.

The Bostrom is used and endorsed by Schools, Extension Service & Individual Landowners everywhere.

Anyone can operate a BOSTROM Level by following the simple direction booklet included with each instrument. We manufacture 3 models: Farm Level, Contractors Level, Convertible Level. All BOSTROM Levels are sold on the guarantee of satisfaction or money back. WRITE TODAY for literature, prices and name of our distributor near you.

Bostrom-Brady Manufacturing Co.
320 Stonewall St. Atlanta, Ga.

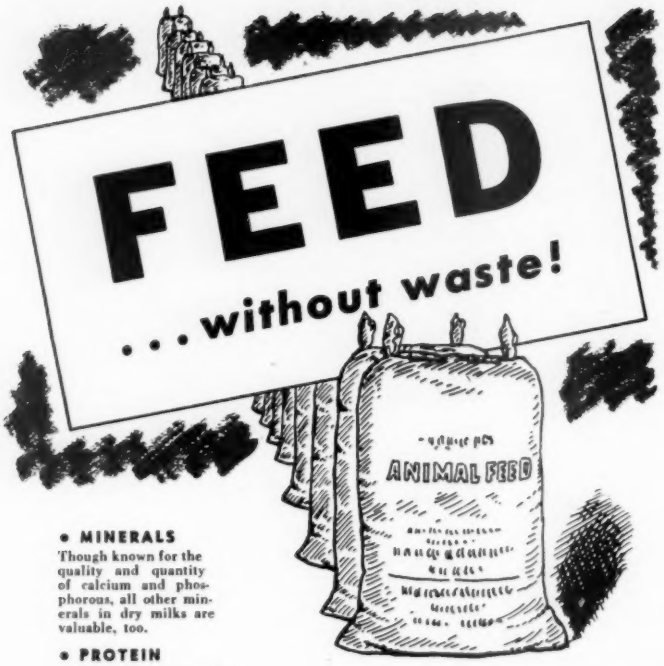
PIONEER DAIRY FEEDS · RED COMB POULTRY FEEDS · PIONEER HOG FEEDS

Efficient feeding programs for all livestock and poultry that produce "Quality Results at Low Cost".

WRITE FOR FREE BOOKLETS AND CIRCULARS.

HALES & HUNTER CO.
141 W. JACKSON BLVD.
CHICAGO 4, ILLINOIS

Pennsylvania Farm Show
Harrisburg, Pa.
January 8-12



• MINERALS
Though known for the quality and quantity of calcium and phosphorous, all other minerals in dry milks are valuable, too.

• PROTEIN
As much as 35 per cent of the highest quality animal protein is contained in dry milks—important to complement the cereal proteins.

• VITAMINS
Rich in APF and riboflavin, dry milks also contain significant amounts of all the other water-soluble vitamins of milk.

• LACTOSE
Milk alone is the source of lactose or milk sugar—highly valuable in a ration.

DRY BUTTERMILK and DRY SKIM MILK are 100% feed—*no fiber, no unnecessary ash.* For fast vigorous growth recommend them in poultry and animal feeding.

All the known nonfat milk nutrients, including the complete APF (animal protein factor) are contained in dry skim milk and dry buttermilk. Both are a natural source of protein, minerals, lactose and vitamins.

Free consultation on your problems is available through the Feed Service Division of the Institute.

AMERICAN DRY MILK INSTITUTE, Inc., 221 N. La Salle St., Chicago

POULTRY BANDS AT LOWER PRICES CATTLE TAGS
Supplies for Poultry & Livestock
COMPLETE LINE OF IDENTIFICATION TAGS INCLUDING OVER 100 ASSORTED STYLES AND SIZES. WRITE TODAY FOR CATALOG AND SAMPLES.
SAVE - ORDER DIRECT FROM FACTORY!
Leg and Wing Bands
Dressed Poultry Tags
Pickout Controls
Pedigree Record Forms
Trapnest Fronts
Pedigree Baskets
Tendon Extractors
Livestock Ear Tags
Bull Rings—Hog Rings
Auction Sales Tags—Ear Notchers—Cattle Leads
Neck Chain Tags—And Many Others
Write for Free Catalog and Samples
NATIONAL BAND & TAG CO.
720 Orchard St. Dept. 1-249 Newport, Kentucky

FREE To All County Agents and Vo-Ag Instructors
So that you may be better acquainted with the merits of our Accuracy Attested
KO-EX-7 Brom Thymol Mastitis DETECTORS
with the Green Spots, which tell the Degree or Severity of the Infection, we will send a full size box—Free—Write today—
STERLING RESEARCH CORP.
Dairy Div. 14 Buffalo 3, N.Y.

Better Farming Methods
Fourth Annual Husbandry Issue coming in March

ORTHO SULFURS—California Spray-Chemical Corp., Richmond, Calif.
OWL, PERFECTION SWAN and ELECTRIC—Stauffer Chemical Co., 420 Lexington Ave., New York, N. Y.
SULFORON—Associated Seed Growers, Inc., P. O. 4264, Atlanta 2, Ga.
THOM-WARD SULF-OIL — Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City 8, Mo.
Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

SEED DISINFECTANTS

AGROX—(For bunt and smut of grains) Chipman Chemical Co., Bound Brook, N. J.
ARASAN—(For corn, peanuts, sorghum, rice, soybeans, peas and beans) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
ARASAN SF—(For corn, sorghum, rice, soybeans, peas and beans) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
ARASAN—(For corn, sorghums, peanuts, soybeans, etc.) Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
ARASAN — (For peanuts) Associated Seed Growers, Inc., P.O. Box 4264, Atlanta 2, Ga.
BULB PROTECT—(Protects bulbs from fungi and rodents) Plant Products Corp., Blue Point, L. I., New York.
CALOMEL—(For vegetable seeds) Millmaster Chemical Corp., 420 Lexington Ave., New York 17, N. Y.
2% CERESAN—(For cotton and pea seeds) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
CERESAN—(For all crop seeds) Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.
CERESAN M—(For control of stinking smut in wheat) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
CERESAN M—(For cotton and grains) Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
CERESAN, NEW IMPROVED — (For control of stinking smut in wheat) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.
CORONA COPPERCARB NO. 20—(For wheat and sorghum) Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
CORONA COPPERCARB NO. 50—(For wheat) Pittsburgh Plate Glass Co., Corona Chemical Div., Milwaukee 1, Wis.
CORROSIVE SUBLIMATE—(For potato seeds) Millmaster Chemical Corp., 420 Lexington Ave., New York 17, N. Y.
CRO-TOX and CROW-FEZ—(Crow repellents) Bonide Chemical Co., Utica, N. Y.
2% CERESAN—(For cotton) Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.
DAMP-TOX—(Prevents damping off) Doggett-Pfeil Co., Springfield, N. J.

DOW 9-B—(For cotton seed) Dow Chemical Co., Midland, Mich.

77 DUST—(Formaldehyde dust) Doggett-Pfeil Co., Springfield, N. J.

EXPERIMENTAL FUNGICIDE 224—(Zinc mercury chromate complex) Carbide & Carbon Chemicals Corp., Unit of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

EXPERIMENTAL FUNGICIDE 640—(Zinc copper chromate complex) Carbide & Carbon Chemicals Corp., Unit of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.

MERGAMMA—(For wireworms and bunt and smut of small grains) Chipman Chemical Co., Bound Brook, N. J.

MERSOLITE PHENYL MERCURIC SALTS—(Bulb treatments) Millmaster Chemical Corp., 420 Lexington Ave., New York 17, N. Y.

NIAGARA GAM-KIL 75—(General use) Niagara Chemical Division, Food, Machinery and Chemical Division, Middleport, N. Y.

NIAGARA PHYGON—(General use) Niagara Chemical Division, Food Machinery and Chemical Division, Middleport, N. Y.

NIAGARA SPERGON—(General use) Niagara Chemical Division, Food, Machinery and Chemical Division, Middleport, N. Y.

PHYGON PASTE—(For slurry treatment only on beets, corn, peas, rice and spinach. May also be used as spray fungicide.) Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.

PHYGON—(General use) Miller Chemical Co., Omaha, Nebr.

PHYGON SEED PROTECTANT—(Dry wettable powder for dust or slurry treatment for beets, sugar beets, corn, peas, pepper, rice, spinach and other seeds.) Naugatuck Chemical Division, U. S. Rubber Co., Naugatuck, Conn.

PHYGON-XL-DDT—(Dry wettable powder for dust or slurry treatment. Combines DDT for control of storage insects.) Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.

SEED TREATING DUST NO. 20—(For smut or bunt on seed wheat) Thompson Hayward Co., 2915 S. W. Blvd., Kansas City 8, Mo.

SEED-PROTECT—(Protects seed from fungi) Plant Products Corp., Blue Point, L. I., New York.

SEMESAN—(For vegetable and flower seeds) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.

SEMESAN BEL—(For potato seeds) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.

SEMESAN, JR.—(For field, pop and sweet corn) E. I. DuPont de Nemours & Co., Inc., Grasselli Chemical Dept., Wilmington, Del.

SPERGON—(For corn, peanuts, and vegetables) Associated Seed Growers, Inc., P. O. Box 4264, Atlanta 2, Ga.

SPERGON—(Seed protectant for dust treatment only—beans, corn, lima beans, peanuts, peas, sorghum) Naugatuck Chemical Div., U. S. Rubber Co., Naugatuck, Conn.

TERSAN—(For golf course, lawns, etc.) Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.

Assure Rain in '51
with a
HALE Irrigation Unit

Above—This 4 lb. bunch of celery came from celery field at right, irrigated by an 800 GPM Hale Type CFIR.

Now is the time for farmers to get together with their dealers on a Hale irrigation pumping unit for '51 . . . don't wait till crops start to "burn up"! Assure rain when it's needed . . . increase yield, multiply profits. HALE Centrifugal Pumping Units are now available for irrigating areas from 1 to 100 acres and up.

Table at right lists Hale Units designed for use with overhead, underground or portable irrigation systems.

For Push-Button Rain!

- **Type CIR 1250 GPM at 100 lbs.**
- **Type CFIR 800 GPM at 100 lbs.**
- **Type W 300 GPM at 78 lbs.**
- **Type PZ, 150 GPM at 50 lbs. Portable in frame; on skids; or on two wheels.**
- **Type NP, Self-priming portable, 15 GPM at 40 lbs.; 60 GPM free flow.**
- **Type ENP, 90 GPM at 21 lbs.; Electrically driven**

NOTE: Units come skid or trailer-mounted, except PZ, NP and ENP.

Write for detailed information . . . state size of area and water source available.

HALE FIRE PUMP COMPANY
Conshohocken, Pa.

YOU CAN ALWAYS
✓ O.K. SISALKRAFT WATERPROOF SISAL-REINFORCED PROTECTIVE PAPERS
FOR SILOS, HAYSTACK COVERS, MACHINERY COVERS, BUILDING LINERS and many other uses
WRITE FOR FREE SAMPLES AND DATA ON "SISALKRAFT ON THE FARM"
Ask about Motion Picture film for meetings.
THE SISALKRAFT CO.
Dept. FM1, 205 W. Wacker Dr., Chicago 6, Ill.
New York 17, N. Y. • San Francisco 5, Calif.

MAKE MORE PROFITS UNDER AVERAGE FARM CONDITIONS —RAISE MILKING SHORTHORNS

For the average farmer,' Milking Shorthorns are unbeatable. Produce 4% milk. Have greater carcass value than other breeds. Second to none in producing milk and meat from home-grown roughage and grain from your farm! Free facts. Or subscribe to Milking Shorthorn Journal. Six months, $1.00; $2.00 per year; 3 years, $5.00.

AMERICAN MILKING SHORTHORN SOCIETY
Dept. BF-3. 313 S. Glenstone Ave., Springfield 4, Mo.

Need Teaching Aids?
USE the Helpful Booklet Section beginning on page 78.

BRAHMANS OF DISTINCTION

Like a royal crown, a crest of nobility, every NORRIS PUREBRED BRAHMAN proudly wears the Circle Square, globally-famous brand of the NORRIS CATTLE COMPANY. The Circle Square brand means bigger beef, larger profits, improved animal health, more efficient feeding and better crossbreeding results. Latest honors bestowed upon NORRIS BRAHMANS at the recent Webster, Florida, Show include Grand Champion Cow, Reserve Grand Champion Bull and the Premier Exhibitor's Award.

Mass production methods enable us to offer Brahman Cattle at prices ranging from Woolworth to Tiffany. For valuable information on Norris Brahmans, write for Packet "M."

Arkansas Representative
Southern Rice Farms
Carlisle, Arkansas.

NORRIS CATTLE COMPANY
R. G. "Bob" Herrmann, Gen. Mgr.
Box 1051 • Ocala, Florida

U S D A FILMSTRIPS

Only 55c and 60c each.

Don't Pay More Than The Official Price.

They are wonderful buys and practical teaching aids. Just be sure you get "official" films when you buy; get them from Nasco. Nasco USDA films are produced by the official processor, and sold at official USDA prices. They are the best quality and up-to-date. In fact, visual aids specialists carefully screened USDA films for the Nasco catalog.

GET THEM FROM NASCO

Vo-Ag and veteran instructors are buying filmstrips from Nasco in quantity. You, too, can have a low cost filmstrip library. Select from the long list of USDA titles and hundreds of other Nasco filmstrips. Write today if you don't have a Nasco catalog.

NATIONAL AGRICULTURAL SUPPLY CO.
FORT ATKINSON, WISCONSIN
NASCO

Chemicals Will Kill Mesquite

(*Continued from page* 11)

the base of the plants. Enough oil should be used to thoroughly wet the bark to the lowest bud on the underground stem. Greater amounts of oils are needed when the soil is wet, when mesquite grows on more impervious soils, or where the growth is brushy.

Somewhat cheaper although less effective control may be obtained by thoroughly spraying the lower 12 to 18 inches of the basal stems with a solution of 2,4,5-T ester diluted to contain 1 pound of acid in 10 gallons of kerosene or diesel fuel. The effectiveness of this treatment may be increased by removing the top-wood and spraying the stumps and cut surfaces.

The most effective season for treatment appears to be from June to October. This method of treatment should find considerable use for controlling mesquite along right-of-ways and fence rows.

Other methods of individual tree treatment include grubbing by hand or power machinery. Contract grubbing is generally too costly. However, on thin open stands of mesquite on large ranches where the land owner can afford to own and operate his equipment, costs may be reduced materially.

The chief objection to grubbing other than the high cost, is the rough surface of the land which invariably becomes heavily infested with undesirable weeds.

Spray Dense Stands

The only effective methods of treating dense stands of mesquite consists of treatments that lend themselves to swath or broadcast application. The most promising method for large areas, although it is still in the experimental stage, is airplane spraying. A spray application of ⅔ pound acid of a low volatile ester of 2,4,5-T in one gallon of diesel fuel and three gallons of water per acre has been used successfully.

Eighteen months after airplane application tests in 1949, 98 percent of the top wood was killed to ground level and 45 percent of these plants showed no regrowth from the roots. The sprout growth that did occur for the most part was short, spindly, and showed abnormal development. From these studies and others made in 1948, it would appear that retreatment would not be necessary for a period of 5 to 10 years later.

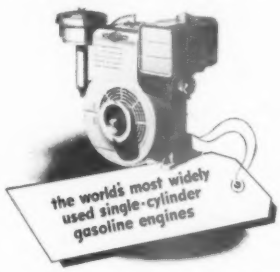
The season of treatment is probably the principal factor influencing the effectiveness of 2,4,5-T when applied to the foliage of mesquite. Most effective kills of mesquite have been obtained when plants have reached the first heavy foliage stage. This is approximately 50 to 80 days after the first leaves appear in the spring. Treatments during this period of the season will usually give excellent control of most range weeds.

More than **5,000,000**

4 CYCLE
BRIGGS & STRATTON
GASOLINE ENGINES

The performance record of more than five million Briggs & Stratton 4-cycle, air-cooled engines speaks for itself.

BRIGGS & STRATTON CORPORATION
Milwaukee 1, Wisconsin, U. S. A.



MORE COVERAGE PER DOLLAR *with*

No. 80 Special

RAIN BIRD Sprinklers

There's a Rain Bird Sprinkler for every agricultural requirement, with 19 different models, ranging in size from 1½ G.P.M. at 3 pounds pressure, to 610 G.P.M. at 120 pounds pressure.

As in years past, Rain Bird continues with research and testing to hold the lead with improved sprinklers that give more coverage per dollar of cost.

Our research department is at your service. Handbook and bulletins on request to county agents, teachers, and agricultural leaders.

RAINBIRD Sprinkler Mfg Corp.
GLENDORA, CALIFORNIA

L. R. NELSON Mfg. Co., Inc.
PEORIA, ILLINOIS

Applications made either earlier or later have been much less effective or even ineffective on mesquite and gave little or no weed control.

Other factors that appear to be associated with highly effective kills of mesquite are: (1) an abundance of soil moisture at least three weeks before time of treatment; (2) temperatures above 70 degrees; and (3) other factors that promote rapid and succulent growth.

The most desirable type of airplane spraying equipment used in these tests was designed to distribute the spray solution in coarse droplets. The larger droplets not only gave more effective kills of mesquite, but also gave better kills of weeds and showed much less tendency to drift.

In the amounts used to kill mesquite 2,4,5-T is not toxic to livestock and native grass plants. This same material, however, even in trace amounts from drift will seriously affect and may even damage highly susceptible crops like cotton, alfalfa, and clovers. Extreme caution must be exercised when susceptible crops are grown within several miles of the area that is to be treated with 2,4,5,-T.

Cost Per Acre Varies

The cost of airplane application together with the chemical will probably range from $3.25 to $3.75 per acre. It will depend upon the facilities available for application, such as the availability of landing strips, water, and distance to the area of application.

Ground equipment has shown some value for control of sprout growth. Control is possible when 1 pound of acid of 2,4,5-T esfer per acre is used in enough water to thoroughly wet the foliage of plants 3 to 5 feet tall, during the heavy foliage stage of growth in the spring. For large tree type growth or in dense thickets ground application equipment has generally been ineffective and rather costly.

The brush or root plow is useful for clearing land for cultivation but the operation is too expensive for control of mesquite and often results in almost total destruction of the grass cover.

The ease of handling and caring for livestock on areas cleared of mesquite brush probably represents the greatest benefit to livestock raisers. Nevertheless, grazing trials over a 5 year period have shown that the removal of moderate stands of mesquite has increased steer gains an average of 29 pounds per head. During the last three years steer gains were increased 29 per cent over brush pastures and in 1948, a very dry year, gains were 43 percent higher on the cleared pastures.

The grass cover on the pastures that were cleared has improved markedly in composition and density of the more desirable grass species.

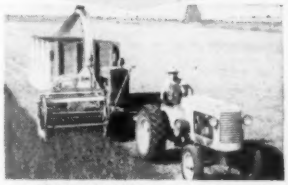
Good Chopping Most Important

In a Forage Harvester

GEHL
SINCE 1859
PRONOUNCE IT "GALE"

1. CHOPPED HAY ... with hay pickup.

Quick Change-over for 3-WAY Harvesting



2. GRASS SILAGE . . . with mower-bar attachment and own motor.

3. CORN SILAGE . . . with row-crop attachment and power take off.

● The first thing an owner will tell you about his Gehl Forage Harvester is: "It's a better chopper." He likes *Gehl's fast, clean, uniform chopping* because it gives him better forage . . . silage that packs better and keeps well. Better cutting made Gehl Silo Fillers and Hammer Mills famous for over fifty years. Now the Gehl Forage Harvester is carrying on that tradition, and it is one reason why *Gehl has sold more forage harvesters than any other independent manufacturer.*

ANY OF THE 3 GEHL UNITS ATTACHED IN A FEW MINUTES

HAY PICKUP . . . picks up dry hay, straw or grass for hay or silage . . . chops it and blows it into wagon.

MOWER BAR . . . for grass silage. This newly-developed Gehl Attachment mows and chops the usual low-growing crops such as Alfalfa and Brome, also the new tall-growing "balanced silage" mixtures such as Millet, Sudan Grass, Soy Beans, Sorghum and Cane, sowed broadcast.

ROW-CROP ATTACHMENT . . . Patented Auger-Type Gatherers (instead of chains) . . . *exclusive* with Gehl . . . no breakdowns . . . less tendency to knock off ears . . . cuts standing corn, cane, etc., for silage.

GEHL equipment does the complete job, from field to storage. One basic harvesting machine takes all 3 quick change-over units. Powerful, tilt-up GEHL BLOWER elevates to highest silo or mow . . . power take-off or separate electric drive operates GEHL SELF-UNLOADING WAGON BOX (illustrated below), and others. Buy a Gehl Wagon Box complete—or build your own.

FREE WAGON BOX PLANS for building self-unloading wagon box using Gehl Parts Kit of complete iron work, windlass, chains, bearings, etc. Ask your dealer or write for literature and free wagon plans.

Drop us a Postal Card Today

GEHL BROS. MFG. CO., Dept. MA-561, WEST BEND, WISCONSIN

More Profits with Market Topping HAMPSHIRES

✔Better Mothers
✔Cheaper Gains
✔MORE Meat

More hog growers are demanding Hampshires to get that extra pig per litter; more pounds of quality red meat per head; and higher dollar value of carcass. Rapid growth, economy of gain, rustling ability and fine carcasses insure added profits. Hampshires are the answer to efficient, profitable, quality pork production. WRITE for

FREE! breed literature; location of bred sow sales; addresses of nearby breeders.

SPECIAL. 1 yr. subscription to Hampshire Herdsman, breed magazine — Send $1.00 to

HAMPSHIRE SWINE REGISTRY
1113 MAIN ST., PEORIA, ILLINOIS

BRED SOWS By Mail Order! Save time and time! Let our expert Fieldmen select your seed stock, at your price . . . a free service . . . satisfaction guaranteed. Write for details.

MAKE YOUR SUNPORCH AN EXTRA ROOM IN WINTER

R-V-LITE®
All-Purpose WINDOW MATERIALS

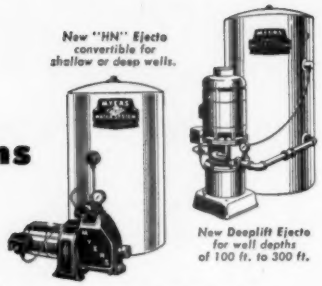
6 TYPES at your hardware, lumber or poultry supply dealer

ARVEY CORPORATION, CHICAGO, ILL.

Myers

water systems

Dependable as the day is long!

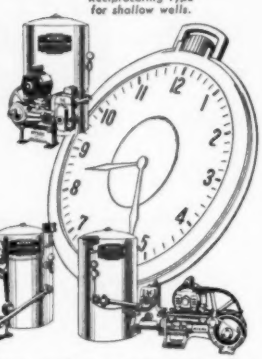


New "HN" Ejecto convertible for shallow or deep wells.

New Deeplift Ejecto for well depths of 100 ft. to 300 ft.

24 HOURS A DAY . . . 365 days a year . . . you're sure of *steady* water service when your water system is a Myers. Top-quality construction keeps it operating with clock-like dependability — smooth and quiet running throughout its long and thrifty life. And most important, there's never a doubt about service from your authorized Myers dealer. He can supply *any* part for *any* Myers Pump, *any* time it's needed. He protects your investment! Right now is a mighty good time to see your Myers dealer. Coupon brings his name and free informative literature.

Reciprocating Type for shallow wells.



New Myers Water Softeners filters, conditioners and purifiers to solve all water problems.

Self-Oiling Working Heads for extreme depths and higher pressures.

Self-Oiling "Bulldozer" for heavy-duty shallow well service.

New Centrifugal Pumps for irrigation and many other needs.

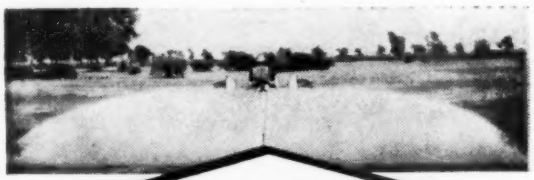
THE F. E. MYERS & BRO. CO., Dept. T-53, Ashland, Ohio
– Send free literature as checked:

☐ Water Systems ☐ Water Softeners ☐ Power Pumps ☐ Hand Pumps ☐ Hay Unloading Tools ☐ Power Sprayers ☐ Hand Sprayers

Name_____

Town_____ State_____

County_____ R.F.D._____



Have You Seen The New...

Hanson Brodjet

LIVESTOCK

Sprays up to 40 feet using from 5 to 100 gallons per acre in small grains, pastures and corn fields.

It's the answer to economical weed and insect control—faster and more adaptable to other uses than conventional sprayers.

ORCHARDS

ROADSIDES

SPOT SPRAYING

HANSON CHEMICAL & EQUIPMENT CO
BELOIT, WISCONSIN

Use Nitrogen

(*Continued from page 12*)

fertilizers. This means that our seedings of alfalfa and clover get off to a more vigorous start in the spring. Once well established, they are able to stand more competition with the heavier growth of straw resulting from nitrogen fertilization.

Certainly do not recommend nitrogen fertilizer when there is danger of grain lodging, or on sandy soils where moisture is a critical factor. Under such conditions, advise farmers to go easy on its use.

However, here is an observation. Where heavy rate applications of phosphate-potash fertilizers are made on land well supplied with lime, the clover and alfalfa seedlings get off to a vigorous start. They will compete pretty well with the heavier growth of straw due to treatment with nitrogen fertilizer.

In "rate per acre" demonstrations this year on some farms the growth of alfalfa and clover was so rank on the plots receiving the 500 lbs. of 0-20-20 that it actually choked the grain. But on that half of the heavy rate plot where nitrogen was applied the grain was a big crop and still the seedings of clover and alfalfa came through in good shape.

Corn Yields Improved

In recent years nitrogen fertilizers have been applied to corn as a side dressing at the time of the second or third cultivation on thousands of farms in the middlewest. This practice is becoming more and more widespread. Anhydrous ammonia is being used on corn in some parts of the country and applied with special attachments during the early period of the growing season.

In Wisconsin thousands of farmers are equipping their tractor cultivators with attachments and side dressing their corn with the solid forms of nitrogen fertilizer.

We still need to use a complete balanced fertilizer for corn on low fertility land. Most of the "back 40" fields on Wisconsin farms need phosphate and potash to back up the nitrogen.

However, there are thousands and thousands of acres of corn in Wisconsin that would respond to straight nitrogen treatment. This is especially true where the general level of fertility has been raised through the continued use of phosphate potash fertilizer on soils that have been well limed. Under such conditions straight nitrogen can be used with excellent results.

Nitrogen Improves Pasture

There are millions of acres of permanent grass pastures in Wisconsin that are producing less than a half a crop. This is quite generally true over the entire country.

Pasture is an important crop in a live-

stock system of farming.

Where nitrogen fertilizers are used every year on permanent pastures the extra growth of grasses uses up the readily available supplies of phosphate, potash, and lime. Therefore, we are now approaching the problem of pasture improvements through the use of a complete balanced fertilizer.

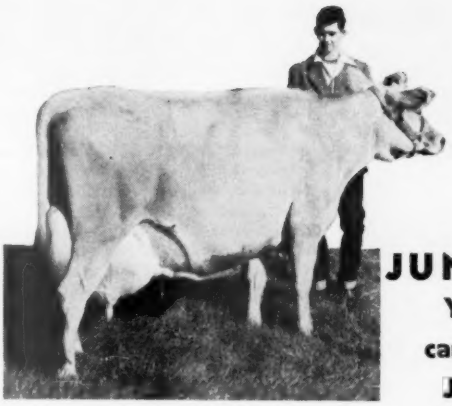
Nitrogen will improve pastures too. In addition to giving better plant growth, the pasture grasses are palatable and higher in protein content.

The application of from 500 to 600 lbs. per acre of 10-10-10 or 12-12-12 fertilizer applied every third or fourth year will thus make possible maximum returns from straight nitrogen applied in the intervening years.

Thousands of acres of timothy and brome grass would respond profitably to nitrogen treatment. Most of such fields have previously been treated with lime, phosphate, and potash at the time of seeding down. However, straight nitrogen applied to such fields will produce outstanding increases in the yield of leafier, more palatable feed, with a higher protein content, too.

But with all this great increase in the use of nitrogen fertilizers for increased production on American farms, let's not forget the role of legumes. They are producers of protein feed, as well as our cheapest source of nitrogen.

"The fellow who sold us this male dog was a swindler. Th' critter hasn't brought in the mail since we've had him!"



Ralph Cope, Jr., with Opal Crystal Lady, only cow of any breed to have given over 1,000 pounds butterfat in 3 consecutive lactations.

JUNIORS—
You, too, can win with JERSEYS!

Ralph Cope started with one Jersey heifer when he was 8 years old. Today at 25, he owns the highest Gold Star Jersey herd in history. Efficiency of production came first with Ralph. That's why he chose Jerseys. Production honors came second—as a result of that choice and careful herd building.

Jerseys give top profits and top pleasure. Buy a Jersey now and enter the Junior Show at the All-American Jersey Exposition. Have the satisfaction of owning a high producing and show-winning dairy animal.

THE AMERICAN JERSEY CATTLE CLUB
Department B - Columbus, Ohio

NORTH DAKOTA
Certified Seed
POTATOES

MOTHER NATURE MAKES THEM RUGGED!

When it comes to hardiness, there's none to compare with North Dakota certified seed potatoes. Dry-land grown above the 47th parallel north.

ASK YOUR DEALER
To Reserve Your Needs

STATE SEED DEPARTMENT
College Station **Fargo, N. D.**

AGRICULTURAL TEXTS
FARM MAGAZINES
and SUPPLIES

At prices you can afford.

•

THERE'S A REASON *why*

we continue to receive orders from the same schools year after year—

IT'S OUR . . . SQUARE DEAL PLAN

- We allow you from 12% to 15% on book orders
- We give you a free desk copy when 12 or more books of the same title are ordered
- We allow from 2% to 5% on supplies
- We ship your order by return mail
- We allow you 90 days or more to pay

NATIONAL FARM BOOK CO.
Viroqua, Wisconsin

Defoliation

(*Continued from page 14*)

in the Cotton Belt this past fall.

In the Southeast, it has become increasingly apparent that farmers can prevent most of their losses from boll rots by proper defoliation. The additional light and aeration provided in rank cotton, where boll rotting fungi attack the bolls in wet seasons and often render the fiber worthless, is one of the major benefits of the practice in the region.

Farmers have known this for a number of years. Conditions were such this past summer and fall that many who had given little consideration to defoliation "rediscovered" its importance. An increasing number are now coming to the view that defoliation is good insurance. They are ready to include it as a regular part of their production practices.

For several years calcium cyanamide was the only defoliating chemical available. It is still the dominant material in the humid parts of the Cotton Belt and at this time seems likely to continue to hold this position.

Other materials are coming into the picture. They are used as a supplement to cyanamide, for use during periods of drought, or when there is little dew.

Lack of Moisture Overcome

Farther west the use of calcium cyanamide has always been limited. This was because of the lack of dews or light rains during times when defoliation is most desirable. Here, instead of only one defoliant, it now looks as if growers will be faced with a choice of several. Each will do a better job at a specific time of year or under specific conditions.

Scientists on defoliation look for farmers in the more arid regions to continue to find use for calcium cyanamide for defoliating, especially early in the season when morning dews are common. Later, as the season advances into the period when there is little dew, hygroscopic dust may come in to do a better job.

At present, however, only one such dust—monosodium cyanamide—is being marketed. Used as a dust, it has the capacity of drawing enough moisture from the air to liquefy and then penetrate into the leaf cells at or near 50 percent relative humidity.

Gradual or increasing dryness of the soil, air, and plants is a characteristic of irrigated cotton regions. Here, as the plants grow to maturity and become slightly drier, the chlorate-borate mixtures are likely to be useful. For example, sodium chlorate with sodium pentaborate.

Sodium monochloroacetate has proved a little more effective than these mixtures in moisture-stressed cotton. All are applied in water as sprays, so are effective in the absence of dews.

As the cotton plants become extremely

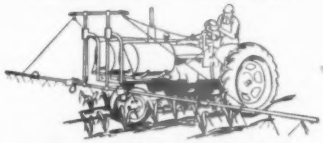
"Build it yourself"
SPRAYER KIT
saves 50%

PUMP STRAINER REGULATOR

Here's a dandy project for a Vo-Ag boy or group: build a high-quality low-gallonage agrichem sprayer, with this kit as the heart. Also a worthwhile idea for winter spare time in the farm shop.

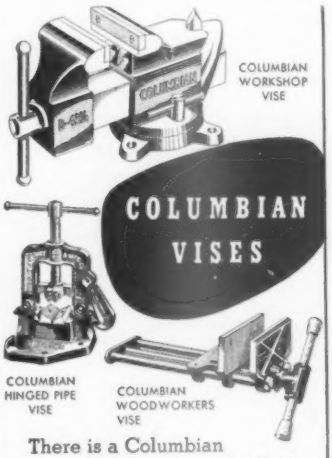
The kit consists of a genuine Enparco all-bronze pump with chrome-plated gears, pressure regulator and gauge, hoses, couplings and strainer. Nozzles and accessories also available.

today
WRITE FOR FREE PLANS AND NAME OF NEAREST DEALER



ENPARCO MADE BY MAKERS OF FAMOUS YELLOW DEVIL

THE ENGINE PARTS MFG. CO.
1360 W. 9th ST. CLEVELAND 13, O.



There is a Columbian Vise for every need. Each Columbian Vise is especially designed and moderately priced for mechanized farms and schools.

Send for complete information.

THE COLUMBIAN VISE & MFG. CO.
9011 Bessemer Road Cleveland 4, Ohio

TO HELP YOU SOLVE . . .
ANIMAL HEALTH PROBLEMS

DR. LEGEAR'S POULTRY GUIDE and LIVESTOCK MANUAL

These books, for many years have served as reference works on Sanitation and the prevention and Control of Livestock and Poultry Diseases. The new editions, just off the press, bring you the very latest information on sanitation, identifying and treating diseases.

They are yours—FREE—for the asking. You will find them valuable in aiding your farmers and students to do a better and more profitable job of poultry and livestock raising.

WRITE TODAY for YOUR FREE COPIES!

DR. LEGEAR MEDICINE COMPANY
ST. LOUIS 16, MO.

mature, chemicals that produce more leaf injury will prove useful. At present, these include ammonium thiocyanate and potassium cyanate. They also are applied as water solutions.

As a final step in defoliation, oil-base defoliants are showing promise. These are used after the water-soluble chemicals are no longer efficient because of extreme drying of the cotton plants when fully mature. Under such conditions farmers in the arid regions are likely to find them very useful. They are now recommended only for use on fully mature plants.

Location Determines Application

The entire matter of defoliant application rates is dependent on location. Rate is specifically dependent on weather. It is also very dependent on amount of foliage, plant activity, and stage of maturity.

Manufacturers' recommendations provide a good general guide based on widespread experimentation. Local agricultural leaders and growers should also consult defoliation specialists carrying on experiments in their own state or general locality.

All in all, defoliation is here to stay and expand. While especially important where harvesting is done by machines, there are worthwhile benefits from the practice even where cotton is handpicked. Among the benefits, in general, are these:

Defoliation allows all bolls to be exposed to sunlight and air so they dry quickly, open up rapidly. This often permits earlier picking and more cotton is open for the first picking.

Defoliation applied ahead of leaf worm attacks or severe aphid infestations, eliminates some damage to open cotton. It also reduces boll weevil populations and robs late broods of food for overwintering. It permits earlier plowing under of residues for pink bollworm control.

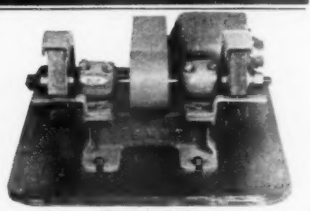
Advantages of earlier and more even opening, added to higher machine efficiency and freedom from green stains, makes defoliation a must practice for harvesting with spindle pickers.

Sinclair Makes New Movie

A new movie entitled "Rainmaker" has been produced by the Sinclair Oil Refining Company. It is an amusing story of present-day farm life, starring an ambitious kid brother of the farmer's wife who arrives from the city to teach his brother-in-law "modern farming methods."

His ideas include such schemes as growing pigs faster and making rain.

This movie will soon be released for showings by county agents, ag teachers, 4-H clubs, FFA groups, and other agricultural organizations.



B. M. W.
All-Purpose Grinder
Especially adapted to needs of Farm Shops
. . . Featuring . . .

Heavy duty cast iron base
No vibration
Seal for life ball bearing
No lubrication
Color—Vista Green
Grinder—includes belt, pulleys, and grinding wheels
Hinged guards
Adjustable tool rests
Belt easily replaced
Motor mounted below or back of grinder for grinding Mower knife, sickles, axes, etc.

CONTACT YOUR DEALER
Manufactured by Bernard Machine Works
Roanoke, Virginia

Know Your Soil
Test it with
LaMotte Soil
Testing Equipment
Reliable—Accurate—Easy to Operate

The result of 28 years of extensive co-operative research with agronomists and expert soil technologists.

Tests for the following available in single units or in combination sets:

Ammonia Nitrogen
Nitrate Nitrogen
Nitrite Nitrogen
Available Potash
Available Phosphorus
Chlorides
Sulfates
Iron
pH (acidity and alkalinity)
Manganese
Magnesium
Aluminum
Replaceable Calcium

Tests for Organic Matter in Soils and Nutrient Solutions (hydroculture) furnished only as seperate units.

Information sent on request

LaMotte Chemical Products Co.
Dept. BFM Towson, Baltimore 4, Md.

Microscopic Sperm Tests
SEND FOR FREE BULLETIN

TESTA Microscopes furnish clear, quick and easy evidence of *healthy sperm.* Thousands in use by progressive breeders. Ideal for *insemination* work to insure against failure. Simple to use. Made in U.S.A. Inexpensive. Guaranteed to show sperm clearly.

STANDARD MODEL G-3: 100X to 400X..$59.00
ADVANCED MODEL F: 100X to 700X..$92.50

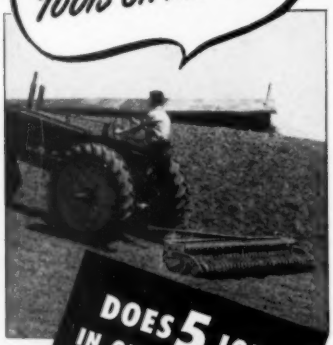
Testa Manufacturing Co.
428 So. Pecan St. Los Angeles 33, Calif.

LIVESTOCK PICTURES
in *Natural Colors*
Printed on 8½ x 11½-inch stock:

1. Brown Swiss Cow
2. Jersey Bull and Cow
3. Guernsey Bull and Cow
4. Holstein Bull and Cow
5. Duroc Gilt
6. Hampshire Sow
7. Berkshire Sow
8. Hampshire Ram
9. Columbia Ram
10. Angus Bull
11. Hereford Bull
12. Polled Hereford Bull
13. Shorthorn Bull
14. Shorthorn Cow
15. Milking Shorthorn Cow
16. Percheron Horse
17. Milking Shorthorn Bull
18. Hereford Cow

Price 15 cents each, $1 for ten.
SEND CHECK OR MONEY ORDER
No C.O.D. Shipments
BETTER FARMING METHODS
Mount Morris, Ill.

A Brillion pulverizer is one of the most profitable tools on the farm



DOES 5 JOBS IN ONE OPERATION
pulverizes the soil,
crushes clods,
packs, levels and
mulches the soil

MODELS FOR EVERY SOIL CONDITION...
33 MODELS • 89 SIZES

Get that bigger crop yield per acre that comes from quicker seed germination when lumps are crushed and pulverized with a Brillion Soil Pulverizer. No finer pulverizer-packer has ever been offered the American farmer than Brillion Soil Pulverizers . . . compare them with any other . . . you'll quickly see the many exclusive features found *only* on Brillion Pulverizer-Packers—dust-sealed self-aligning steel roller bearings . . . full floating action in all directions that always keeps axle in straight alignment no matter how rough or uneven the ground. Heavy 2" axles 85% stronger—direct pull at the axle (not a short hitch from the frame)—flush end brackets—strong wheel end clamps. You get all these exclusive features without paying extra for them. Write today for name of nearest Brillion dealer.

WRITE TODAY for FREE NEW FOLDER P-31

BRILLION IRON WORKS, INC.
BRILLION · WISCONSIN

Sprayers—Fumigating Equipment Seed Treating Machines—Dusters

Anhydrous Ammonia Distributors

Phillips Chemical Co., Fertilizer Sales Division, Bartlesville, Okla.
Dixie Land Equipment Co., Shelby, Miss.
Farm Implement Mfg. Co., Leland, Miss.
Scott Butane Co., Itta Bena, Miss.

Dusters (Hand)

PLUNGER

H. D. Hudson Mfg. Co., 589 East Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
Niagara Chemical Division, Food Machinery and Chemical Corp., Middleport, N. Y.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.

CRANK AND KNAPSACK

Champion Sprayer Co., 6509 Heintz Ave., Detroit 11, Mich.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
Niagara Chemical Division, Food Machinery and Chemical Corp., Middleport, N. Y.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.

DUSTERS, TRACTION

H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
Niagara Chemical Division, Food Machinery, and Chemical Corp., Middleport, N. Y.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.

Dusters, Power

FIELD AND ROW CROP

Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Friend Mfg. Co., Gasport, N. Y.
Howry-Berg Steel and Iron Works, Inc., 1366 W. Oxford, Englewood, Colo.
Niagara Chemical Division, Food Machinery and Chemical Corp., Middleport, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.

ORCHARD

Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Friend Mfg. Co., Gasport, N. Y.
Howry-Berg Steel and Iron Works, Inc., 1366 W. Oxford, Englewood, Colo.
Niagara Chemical Division, Food Machinery and Chemical Corp., Middleport, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.

Lime Spreaders

S. L. Allen & Co., Philadelphia 40, Pa.
Dearborn Motors Corp., Detroit 3, Mich.
John Deere, Moline, Ill.
International Harvester Co., Chicago, Ill.
Minneapolis-Moline Co., Minneapolis, Minn.
New Idea Farm Equipment Co., Coldwater, O.
Oliver Corp., 400 W. Madison, Chicago, Ill.
Portable Elevator Mfg. Co., Bloomington, Ill.

Sprayers, Hand

HOUSEHOLD (Atomizer type)

Brower Ffg. Co., Quincy, Ill.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.

COMPRESSED AIR & KNAPSACK

Brower Mfg. Co., Quincy, Ill.
Champion Sprayer Co., 6509 Heintz Ave., Detroit 11, Mich.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
The F. E. Myers & Bros. Co., Ashland, O.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.

WHEELBARROW, BUCKET & BARREL

Brower Mfg. Co., Quincy, Ill.

Champion Sprayer Co., 6509 Heintz Ave., Detroit 11, Mich.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis 11, Minn.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
The F. E. Myers & Bros. Co., Ashland, O.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.
Dobbins Mfg. Co., Elkhart, Ind.

Sprayers, Power

WHEELBARROW & ESTATE TYPE

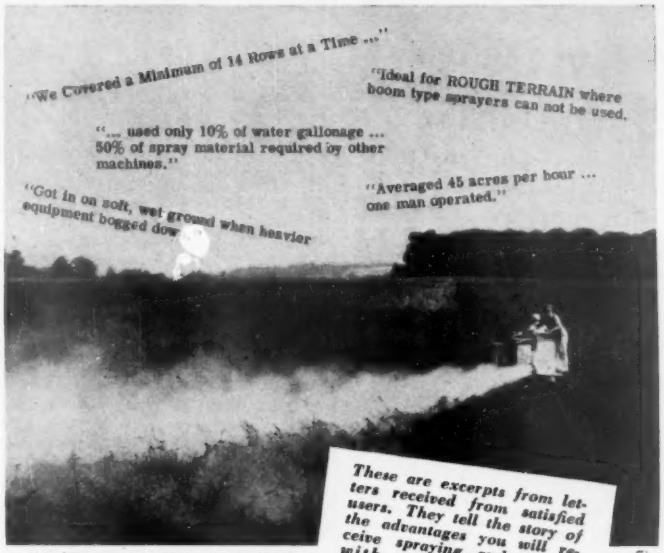
John Bean Div., Food Machinery and Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
Farnam Equipment Co., 2828 Grand Ave., Phoenix, Ariz.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Field Force Mfg. Co., Inc., Phoenixville, Pa.
Friend Mfg. Co., Gasport, N. Y.
H. D. Hudson Mfg. Co., 598 E. Illinois St., Chicago, Ill.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis 11, Minn.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
The F. E. Myers & Bros. Co., Ashland, O.

TRACTOR MOUNTED, TRACTOR POWERED

John Bean Division, Food Machinery and Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Besler Corp., 4053 Harland St., Emeryville 8, Calif.
Century Engineering Corp., Cedar Rapids, Ia.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
Farnam Equipment Co., 2828 Grand Ave., Phoenix, Ariz.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Field Force Mfg. Co., Inc., Phoenixville, Pa.
Friend Mfg. Co., Gasport, N. Y.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis 11, Minn.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
Mack's Anti-Weed Gun, 1424 Chicago St., Caldwell, Idaho.
The Massey-Harris Co., Racine, Wis.
The F. E. Myers & Bros. Co., Ashland, O.
Dobbins Mfg. Co., Elkhart, Ind.

FARM, MULTIPLE PURPOSE

John Bean Division, Food Machinery & Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Besler Corp., 4053 Harlan St., Emeryville 8, Calif.
Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
Century Engineering Corp., Cedar Rapids, Ia.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
Farnam Equipment Co., 2828 Grand Ave., Phoenix, Ariz.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.

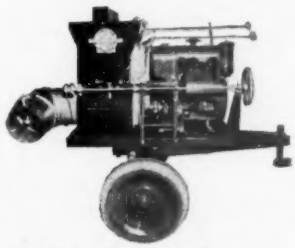

"We Covered a Minimum of 14 Rows at a Time ..."
"Ideal for ROUGH TERRAIN where boom type sprayers can not be used.
"... used only 10% of water gallonage ... 50% of spray material required by other machines."
"Averaged 45 acres per hour ... one man operated."
"Got in on soft, wet ground when heavier equipment bogged dow

These are excerpts from letters received from satisfied users. They tell the story of the advantages you will receive spraying and dusting with a Buffalo Turbine Sprayer-Duster.

High velocity turbulent air, produced by Buffalo Turbine's exclusive axial flow blower, atomizes sprays — dusts — concentrates into micro particles, completely blanketing large areas in *one pass.*

FEATURES:

1. Successfully uses all standard sprays, dusts, concentrates, singly or in combination.
2. Range is up to 200′ horizontally—125′ vertically.
3. Uses only 10% of water required by conventional rigs—*less weight and fewer stops.*
4. Nozzle velocity controlled by engine speed.
5. Spray and dust density are easily controlled.
6. Round and fish-tail air nozzles are standard equipment.



3 Models Available—Trailer (shown), Truck and Jeep Mounted

BUFFALO TURBINE
AGRICULTURAL EQUIPMENT CO., INC.
DEPT. B.F., GOWANDA, N. Y.

MANUFACTURERS OF THE ORIGINAL "MIST" SPRAYER-DUSTER

The Heart of the Buffalo Turbine Sprayer-Duster is the new Axial-Flow Blower

HALE Centrifugal Orchard Sprayer

The Hale Centrifugal Orchard Sprayer, pictured at right, will make farmers money due to efficient coverage; protects quality.

Saves time; provides volume large enough to spray as fast as tractor can run. Pumps any desired capacity up to 100 GPM at 400 lbs.

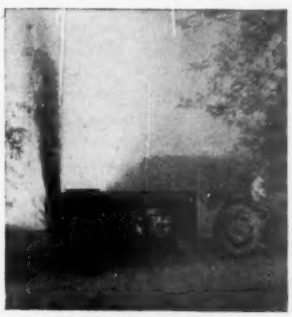
Saves money. Labor cost is about ⅓ cost per 500 gallons of spray applied compared to previous methods.

Requires less effort. One man operation.

Flexible . . . will handle dormant spray solutions as well as usual spray chemicals.

Results prove Hale Sprayer Value.

Write today for Bulletin No. 352. State size of orchard.



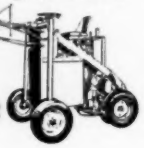
HALE FIRE PUMP CO.
CONSHOHOCKEN, PA.

Modern farmers everywhere

✓ SAVE LABOR
✓ CUT COSTS
✓ BUILD PROFITS

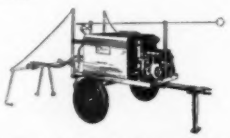
with John BEAN HIGH PRESSURE
SPRAYERS

There are dozens of jobs on every farm that can be done quicker, better and easier with a modern high pressure John Bean sprayer. Mail the coupon below for interesting helpful catalogs and literature.



JOHN BEAN HI-LO SPRAYER WILL HELP WIN WAR ON CORN BORER

This self-propelled sprayer has proved its merit in routing corn borer. Adjustable boom and nozzles permit correct spray pattern, and high clearance permits use in tall corn for control of second brood borer.



HAVING A JOHN BEAN SPRAYER IS LIKE HAVING AN EXTRA HIRED HAND

Here are just a few of the jobs that can be done quicker, better with a John Bean sprayer: kill weeds, whitewash, rout livestock parasites, control flies and pests, protect row crops, clean poultry houses, use as stand-by fire protection. Write for complete information.

LOW COST SPARTAN DOES BIG SPRAY JOBS

Here's the portable high pressure that's ideal for small farms or special uses. It is one model from the complete John Bean line of farm, orchard and livestock sprayers.

fmc John BEAN
Department BF-1
LANSING 4, MICHIGAN

Please send free material checked below:
☐ Hi-Lo Sprayer ☐ Farm Spray Guide
☐ Spartan Sprayer ☐ Custom Spraying Manual
☐ John Bean High Pressure Sprayers

NAME _____
ADDRESS _____
CITY _____ STATE _____

Field Force Mfg. Co., Inc., Phoenixville, Pa.
Friend Mfg. Co., Gasport, N. Y.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis 11, Minn.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
Mack's Anti-Weed Gun, 1424 Chicago St., Caldwell, Idaho.
The Massey-Harris Co., Racine, Wis.
The F. E. Myers & Bros. Co., Ashland, O.
Dobbins Mfg. Co., Elkhart, Ind.
Hardie Mfg. Co., Mechanic St., Hudson, Mich.
Hanson Chemical & Equipment Co., Beloit, Wis.

FARM, SELF-PROPELLED HIGH CLEARANCE

John Bean Division, Food Machinery & Chemical Corp., P. O. Box 840, Lansing 4, Mich.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis 11, Minn.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.

ROW CROP, HIGH PRESSURE

John Bean Division, Food Machinery & Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
Farnam Equipment Co., 2828 Grand Ave., Phoenix, Ariz.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Field Force Mfg. Co., Inc., Phoenixville, Pa.
Friend Mfg. Co., Gasport, N. Y.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis, Minn.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
The F. E. Myers & Bros Co., Ashland, O.
Dobbins Mfg. Co., Elkhart, Ind.
Hardie Mfg. Co., Mechanic St., Hudson, Mich.
Hanson Chemical & Equipment Co., Beloit, Wis.

ORCHARD, HIGH PRESSURE

John Bean Division, Food Machinery & Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Besler Corp., 4053 Harlan St., Emeryville 8, Calif.
Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Field Force Mfg. Co., Inc., Phoenixville, Pa.
Friend Mfg. Co., Gasport, N. Y.
Hale Fire Pump Co., Conshohocken, Pa.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
The F. E. Myers & Bros. Co., Ashland, O.
Dobbins Mfg. Co., Elkhart, Ind.
Hanson Chemical & Equipment Co., Beloit, Wis.
Hardie Mfg. Co., Mechanic St., Hudson, Mich.

Sprayers, Concentrate (Power)

AEROSOL GENERATORS

Besler Corp., 4053 Harlan St., Emeryville 8, Calif.

MIST-TYPE

John Bean Division, Food Machinery & Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Friend Mfg. Co., Gasport, N. Y.
Lawrence Aero-Mist Sprayer Co., 4 Fiske Ave., Greenfield, Mass.
The F. E. Myers & Bros. Co., Ashland, O.
Hardie Mfg. Co., Mechanic St., Hudson, Mich.

LIQUID DUSTER TYPE

Buffalo Turbine Agricultural Equipment Co., Inc., Gowanda, N. Y.
Evans Orchard Supply, 305 Delaware, Kansas City, Mo.

Sprayers, Electric (Insecticide)

A. B. Farquhar Co., 142 N. Duke St., York, Pa.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.

Sprayers, Traction

A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Field Force Mfg. Co., Inc., Phoenixville, Penn.
The F. E. Myers & Bros. Co., Ashland, O.

Sprayer Accessories

John Bean Division, Food Machinery & Chemical Corp., P. O. Box 840, Lansing 4, Mich.
Besler Corp., 4053 Harlan St., Emeryville 8, Calif.
Century Engineering Corp., Cedar Rapids, Ia.
Champion Sprayer Co., 6509 Heintz Ave., Detroit 11, Mich.
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Field Force Mfg. Co., Inc., Phoenixville, Pa.
Friend Mfg. Co., Gasport, N. Y.

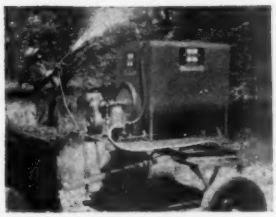
Buy HUDSON...the *NEW* Super-Power Sprayer!

does Not 1..Not 2..but ALL FARM SPRAYING JOBS

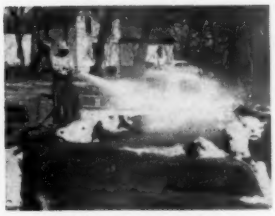
Does All These Jobs ...and many more!

For borer and weed control in corn

For weed control in pastures



For fruit pest control



For livestock spraying

For spraying barn interiors

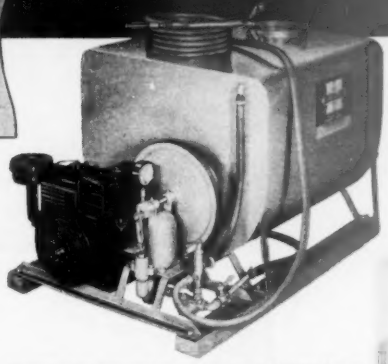
For insect control in field crops

Higher Pressures! UP TO 800 LBS. PER SQ. IN.

Greater Output! UP TO 8 GAL. PER MIN.

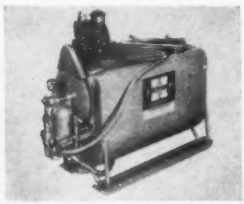
Whatever you may need in power sprayers—Hudson can furnish them to handle all types of liquids and wettable powders. Full range of pressures and gallonages for all types of farm and ranch jobs. Designed to use either boom or spray gun. For use with tractor, trailer, wagon—whatever your requirement may be. And remember—there are no leather plungers or gears to wear out with Hudson's chrome-plated piston pump. Non-corroding, all-brass piping and nozzles. Then, too, Hudson sprayers are self-powered; can be used anywhere without being dependent on tractor power take-offs or other devices.

Ask your nearest Hudson dealer today to show you these NEW COMPLETE ALL-PURPOSE Sprayers, or send coupon for FREE literature!

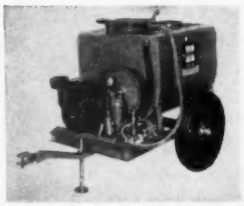


Here's the power sprayer to do ANY farm spraying job! Skid mounted. Use with trailer, tractor, truck, wagon or jeep!

Model shown has 150 gallon tank; develops 800 lbs. pressure per sq. in., delivers 8 gallons per minute. Also available are 150 gallon or 100 gallon sizes, with 500 lbs. pressure per sq. in.; choice of 8 or 4 gallons per minute.



50 gallon tank. Develops 400 lbs. pressure per square inch, delivers 4 gallons per minute. May be used with spray boom or gun; with tractor, truck, trailer or wagon.



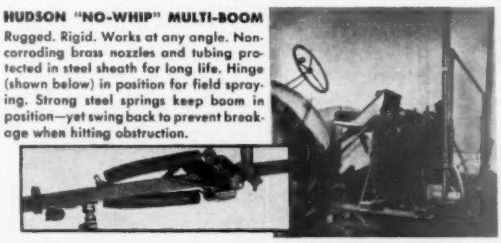
Completely self-contained—mounted on pneumatic tires. Timken bearing wheels. 150 gallon tank. Develops 500 lbs. p.s.i.; delivers 8 gallons per minute. Trailer hitch. Ideal for smaller orchards; custom spraying, pastures, wheat, flax, small grain, etc.

Model shown has 50 gallon tank. Develops 400 lbs. p.s.i.; delivers 4 gallons per minute. Also with 30 gallon tank; develops 250 lbs. p.s.i., 4 gallons per minute.

"ADAPTO" TRAILER. Ideal for use with all Hudson skidmounted sprayers. Adjustable tread for any row width. High clearance.

HUDSON "NO-WHIP" MULTI-BOOM

Rugged. Rigid. Works at any angle. Non-corroding brass nozzles and tubing protected in steel sheath for long life. Hinge (shown below) in position for field spraying. Strong steel springs keep boom in position—yet swing back to prevent breakage when hitting obstruction.



MANY OTHER USES

- For spraying farm buildings
- For weed control in ditches
- For insect control in crops and pastures
- For roadside spraying
- To help fight fires—grasshopper and mosquito control—garden spraying

H. D. HUDSON MANUFACTURING COMPANY

SIGN OF THE BEST BUY

HUDSON

Tested and Proved

SPRAYERS AND DUSTERS
HAY TOOLS AND BARN EQUIPMENT
LIVESTOCK EQUIPMENT
FARM VENTILATION EQUIPMENT
POULTRY EQUIPMENT

H. D. HUDSON MANUFACTURING COMPANY, Dept. BFM 1-51
589 E. Illinois Street, Chicago 11, Illinois

Please send me FREE literature on New HUDSON ALL-PURPOSE SUPER Power Sprayers.

Name .....

R.F.D. .....

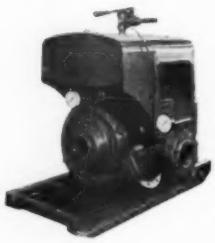
Town ..... State .....

Name of my dealer is .....

Modern MARLOW
IRRIGATION PUMPS

Here are the pumps that provide the newest features for modern sprinkler irrigation. Brand new in design, Marlows are engineered especially for today's new pressure and capacity requirements. They will supply water dependably. They are thrifty and virtually maintenance-free in operation. Equipped with dependable priming devices and with engines that have the latest safety features.

Marlow Centrifugal Irrigation Pumps are available in 12 models, sizes 2 to 6 inch, including two models designed specifically for the new 2 and 3 acre sprinklers. Capacities 50 to 1500 GPM; pressures 30 to 200 PSI. Gasoline and Diesel engine driven. Skid mounted or with steel wheels or rubber tires.



Models also available powered by electric motors.

Write for irrigation facts and complete information.

MARLOW PUMPS
250 GREENWOOD AVENUE • RIDGEWOOD, N. J.
MANUFACTURERS OF QUALITY PUMPS FOR OVER A QUARTER OF A CENTURY

Hale Fire Pump Co., Conshohocken, Pa.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
O. W. Kromer Co., 1120 Emerson Ave., North, Minneapolis 11, Minn.
Livestock Sprayer Mfg. Co., 771 Coleman St., San Jose, Calif.
Lowell Mfg. Co., 577 E. Illinois St., Chicago, Ill.
Mack's Anti-Weed Gun, 1424 Chicago St., Caldwell, Idaho.
The F. E. Myers & Bros. Co., Ashland, O.
D. B. Smith & Co., 414 Main St., Smith Bldg., Utica, N. Y.
Spraying Systems Co., 3201 Randolph St., Bellwood, Ill.
Dobbins Mfg. Co., Elkhart, Ind.
Hardie Mfg. Co., Mechanic St., Hudson, Mich.
Hanson Chemical & Equipment Co., Beloit, Wis.

Seed Treating Machines

Calkins Mfg. Co., 1102 N. Atlantic, Spokane, Wash.
Ben Gustafson & Son Mfg. Co., Moorhead, Minn.
J. W. Hance Mfg. Co., Westerville, O.
Keck Gonnerman Co., Mt. Vernon, Ind.
Ferrell and Co., A. T., West Michigan and Wheeler Sts., Saginaw, Mich.

Coming Events

January 8-9—Missouri State Nurserymen's Association meeting, Hotel Jefferson, St. Louis.

January 8-12—The Pennsylvania Farm Show, Farm Show Buildings, Harrisburg, Penn.

January 9-11—National Turkey Federation annual convention, Long Beach Auditorium, Long Beach, Calif. M. C. Small, Mount Morris, Ill., secretary.

January 12-20—45th Annual National Western Stock Show, Union Stock Yards, Denver, Colo.

January 14-16—Southeastern Poultry & Egg Ass'n Annual Convention, Municipal Auditorium, Atlanta, Ga. R. F. Frazier, exec. sec., Southeastern Poultry & Egg Ass'n, P. O. Box 538, Richmond 4, Va.

January 17-21—Boston Poultry Show & Country Life Exposition, Paul Ives, chm. of show committee, 39 Church St., New Haven, Conn.

February 8-9—The 56th annual meeting of the Idaho State Horticultural Society, Hotel Boise, Boise, Idaho.

February 16-25—San Antonio Livestock Exposition, San Antonio, Texas.

March 15—Distillers Feed Conference, Hotel Sinton, Cincinnati, O.

June 15—Chicken-of-Tomorrow Contest, Fayetteville, Ark.

★

"Is that girl's dress torn, or am I seeing things?"
"Both."

New National Association of County 4-H Club Agents officers. (l-r): Cecil Eyestone, Kansas, director; Clara Oberg, Minnesota, first vice-president; Andrew Olson, Michigan, president. Arlene Martin, Connecticut, secretary-treasurer; and Robert Dyer, New York, past-president and director. Not included in the picture is William Davenport, New Jersey, second vice-president. (BFM Photo)

County Club Agents Declare . . .

"Our Best Convention Ever!"

By George Hall

● "THIS WAS OUR best convention," declared county club agent, Clara Oberg, St. Paul, Minn., commenting on the fourth annual meeting of the National Association of County 4-H Club Agents, which was held in Chicago, November 26-29.

This year's convention had more of everything—more club agents, more interest, and more enthusiasm.

Seventy-one club agents from 12 different states attended the convention. The states represented included: Minnesota, Kansas, Massachusetts, Michigan, New Hampshire, New York, Illinois, Vermont, Connecticut, West Virginia, California, and Wisconsin. New Jersey probably should be counted since representatives intended to be present, but heavy snow in the east prevented them from coming to Chicago.

Speakers on the program included the following state club leaders: A. G. Kettunen, Michigan; C. G. Staver, Colorado; and W. A. Sutton, Georgia. M. L. Wilson, A. W. Aiton, and Gertrude Warren, all of the USDA Extension Service, were also featured speakers.

Breakfast, luncheons and dinners were sponsored for the club agents by several commercial companies. Club agents had an opportunity to attend many of the club congress activities, and other extension meetings that were held in Chicago at the same time.

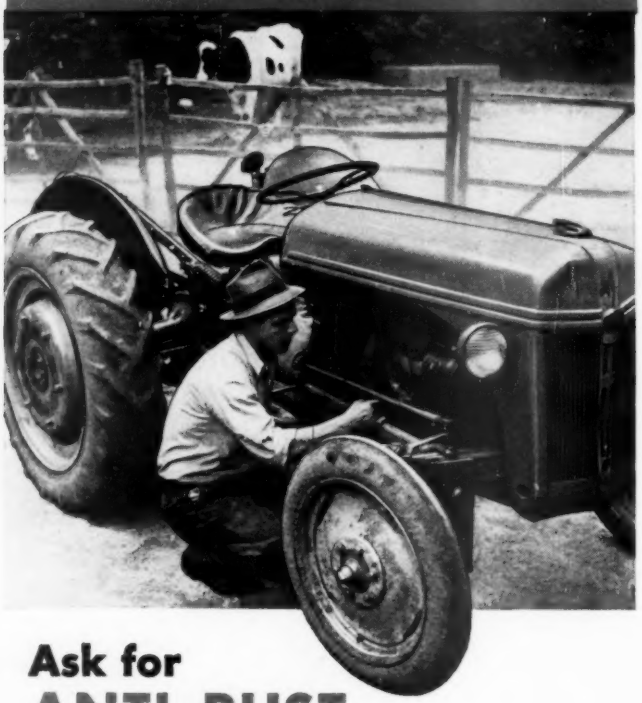
One of the most helpful sessions was a panel conducted by Mrs. Ruth Smith, local club leader from Michigan on "How Can Extension Agents Best Help the Local 4-H Leader?"

Here are some of the highlights on this panel discussion: 1. Give the local leaders a break by getting records out earlier. Don't wait until two days before your report is due. 2. Work for earlier enrollments. 3. Have more leader training meetings. The meeting should provide not only subject matter, but an inspiration as well. 4. Make it as easy as possible for the local leader. (a) Send copies of member letters to 4-H leaders, (b) Send county meeting notices to everyone. Don't expect leaders to send them out; (c) Send a letter listing extra projects available in addition to regular 4-H work; (d) Encourage officers by letters; (e) Keep former leaders on mailing list. 5. Attend at least one or more 4-H meetings in order to help create and maintain interest. See leaders at work, and give encouragement to them. 6. Know 4-H parents and inquire about member's projects. 7. Send "National 4-H News" to more leaders. 8. Send more local 4-H club leaders to the National 4-H Club Congress.

Robert Dyer, New York, president of the association, presented distinguished service awards to M. L. Wilson, director of USDA extension service, and to Gertrude L. Warren, USDA extension service. E. B. Fuller, county club agent, Monroe, New York, was awarded a certificate for 10 years service. Meritorious service awards were presented to Bernard Ramsberg, New Jersey, and Bert Rogers, New York, for their accomplishments in promoting 4-H club programs in their counties.

Private session of club agents: (l-r): Eloise Keller, California; Rosemary Conzeminys, Minnesota; Clifford Beckwith, Kansas; Lloyd Wiseman, Kansas; and Lillian Engen, Minnesota. (BFM Photo)

STOP asking for trouble



Ask for ANTI-RUST SINCLAIR GASOLINE

COUNTY AGENTS, do you know that rust particles—the result of small amounts of moisture in your gas tanks—can stall a tractor, truck and car by clogging fuel pump screen or tiny carburetor jets. New Anti-Rust Sinclair Gasoline prevents the formation of rust in the fuel system, because it contains Sinclair's miracle rust inhibitor, RD-119. It thus protects against hard starting, stalling and repair expense caused by rust and corrosion. *No other gasoline ever did this before!*

So why take costly chances when you can get anti-rust protection in your gasoline *at no extra cost to you!* Phone your Sinclair Representative today!

SINCLAIR

ANTI-RUST GASOLINE

contains RD-119®

New Chemicals

(*Continued from page 15*)

caution has become the watchword among farmers making application of these materials. A good rule to follow on any of the newer pesticides is: *If you cannot follow the directions exactly, do not use this material.*

Further work on two new insecticides, aldrin and dieldrin, has shown these to be valuable for the control of pests.

Aldrin in particular appears to be highly toxic to insects without being so persistent as to cause serious residue hazards over any long period of time. This material will probably be available commercially in 1951.

Toxaphene, another member of the chlorinated hydrocarbon family of insecticides, was widely used last season for the control of cotton insects and grasshoppers.

Potassium cyanate appeared on the market during 1950 as a herbicide for the control of crabgrass and other weeds. For this purpose it seems to fill a definite need, although the organic mercury compounds are also adapted to the control of similar types of weeds.

Preparations of 2,4-D and 2,4,5-T were sold in larger amounts in 1950 than in any previous year. Their use has become almost standard procedure on many farms in this country. Brush control with 2,4,5-T is being widely adopted by public utilities, such as power companies and rural telephone companies. TCA (salts of trichloroacetic acid) has also proved its worth in the eradication of quack grass, one of the most troublesome weeds in the North Central states.

Warfarin Newest Rodenticide

Among the rodenticides, one new compound was released for general use during the past year. This is a derivative of hydroxy coumarin, and has been given the name Warfarin (Compound 42).

This compound acts as an anticoagulant in the blood, and kills rodents by causing internal hemorrhages. To be effective, it must be fed over a period of several days, so that it is not likely to be dangerous to man and domestic animals if used with the proper precautions.

Antu and sodium fluoroacetate (1080) have proved to be extremely toxic, and the latter is only safe in the hands of experienced professional exterminators. Red squill continued to be one of the most popular rodenticides because of its low toxicity to animals.

During the latter part of 1950 the pesticide industry has been plagued with shortages of essential raw materials. In the case of some materials the demand has exceeded the supply. Chlorine, benzene, and phenol, all of which are raw materials widely used in the manufacture of the newer pesticides, will probably be scarce for some time to come.

When writing advertisers please mention *Better Farming Methods*

Safety Comes First

(*Continued from page 15*)

use, one major manufacturer has gone to the extreme of including a special notice in each package containing his product. It says in effect—if you won't follow instructions exactly as printed, please return this package.

Instructions and cautions printed on labels are the result of extensive toxicological testing by manufacturers, government, and private agencies. Existing laws require that a manufacturer complete many scientific tests before submitting a product for registration.

Labels which state—don't allow material to come in contact with the skin, don't inhale, change clothing after application—mean exactly that. Users who are careless in application techniques, and do not provide themselves with protective clothing or masks where called for, are literally inviting disaster.

New Legislation Needed?

The second phase of safety, that of residue, is more complicated and is undergoing intensive study. The Chemical Industry, Food and Drug Administration, Congressional Investigating Committee, American Medical Association, National Research Council, as well as many other scientific groups, are studying this problem.

The problem is essentially whether additional legislation is needed to protect the public or whether existing legislation is adequate. It is too early to predict whether new legislation will result from the current congressional investigation.

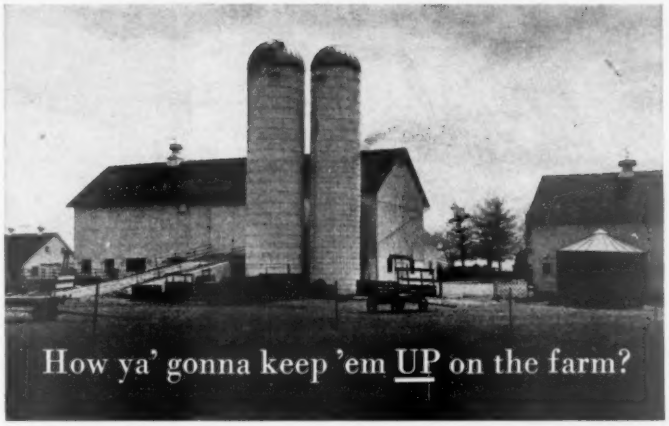
It is expected that residues on fresh fruits and vegetables will be limited by law in the near future. It is not certain at this time when these regulations will become effective but it seems likely they will be in operation for the 1952 growing season, if not before.

These tolerances will limit in parts per million the amount of spray residues on fresh fruits and vegetables in interstate commerce.

It is expected that agricultural colleges and experiment stations will carefully review these tolerances. They will make any necessary adjustments in grower recommendations. By following the state recommendations, growers can be assured that their produce will be within the limits of safety prescribed by law.

Industry faces the year with confidence both in its ability to produce and distribute products. Future progress by the Industry is directly related to the wisdom with which the problem of safety is met by Congress, Federal and State agencies.

In the final analysis, however, farmers who have found insecticides essential have the greatest stake in the outcome. By their farm practices they can do the most to speed progress.



Keeping farm buildings up . . . keeping them weather-tight for protection of crops, feed, machinery and livestock . . . is a big factor in successful farm operation.

Farmers are finding the answer to their maintenance problems in two Ruberoid products . . . Ruberoid STONEWALL Board and Ruberoid TITE-ON Shingles.

New barns for old

No matter how old or dilapidated a barn may be, Stonewall gives it new life. Nailed over old sidewalls, Stonewall gives it practically everlasting strength, beauty and weather-resistance.

Ruberoid asbestos-cement Stonewall Board is fireproof, rot-proof, rat-proof . . . strong, rigid and durable. Stonewall is one of the most versatile, maintenance-saving products on the farm. For new farm structures it provides rigid sidewalls that require less framing . . . a real saving in time and materials.

Real wind insurance for your roofs

Ruberoid Tite-Ons, the famous patented interlocking shingles, have withstood hurricane winds of 120 miles per hour without damage. They provide their own protection. For 18 years on half-a-million buildings Tite-Ons have provided the utmost in roof performance . . . beauty, fire-resistance, long-lasting protection. Enjoy maintenance-free roof security on your farm, too.

Ask your building supply dealer, or write us, about these and other Ruberoid asphalt and asbestos roofing and siding materials.

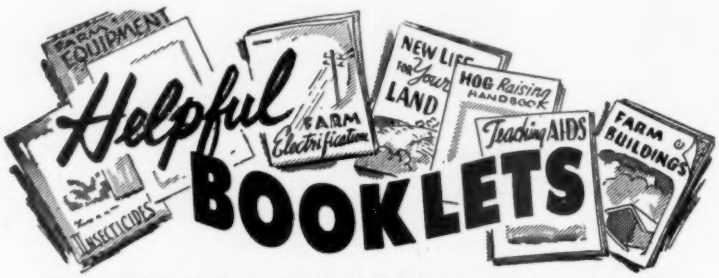
Ruberoid asbestos-cement Stonewall Board gives you *permanent* construction in a hurry. Big 4' x 8' sheets go up fast . . . can be nailed and sawed, or scored and broken to size even faster . . . never need paint.

This man, holding 7 Ruberoid Tite-On Shingles, demonstrates the patented interlocking feature that locks them together into a "one-piece" roof, so firmly anchored that hurricanes haven't been able to tear them loose.

The RUBEROID Co.

Dept. 10—500 Fifth Avenue, New York 18, N. Y.

MORE YEARS FOR YOUR DOLLAR WITH RUBEROID BUILDING MATERIALS



Place a check in the blank opposite the booklets you want to receive. Print your name and address on the blanks below. Tear out the pages and send them to Helpful Booklets Department, Better Farming Methods, Mount Morris, Ill.

Name .....

Address .....

AGRICULTURAL CHEMICALS

AMERICAN CHEMICAL PAINT COMPANY
—"Wheat Bulletin"
—"General Recommendations Bulletin"
—"Weedone Brush Killer 32"

AMERICAN CYANAMID COMPANY
—"Kill Farm and Garden Pests With Cyanogas"
—"Kill Rats With Cyanogas"
—"The Story of Aero Cyanamid"
—"All Season Weed Control in Onions"
—"Aero-Phos Florida Natural Phosphate"
—"Barsprout Sprout Inhibitor"
—"Control Weeds in Tobacco and Vegetable Plant Beds"
—"Aero Cyanamid—What It Is and How to Use It"
—"Parathion Insecticide Growers Handbook"

JOHN BEAN DIV., FOOD MACHINERY CORP.
—(Chart) Farm Spray Guide
—"Opportunities In Custom Spraying"

CALIFORNIA SPRAY-CHEMICAL CORP.
—"Get Quick Kill of Mites, Aphis on Orchards, Vineyards" (Vapotone)
—"Get Quick Kill of Aphis, Mites, Red Spider on Vegetable, Field Crops" (Vapotone)
—"Get the FASTEST, FINEST FLY CONTROL You Ever Had" (Isotox)
—"Kill Wireworms and Many Other Soil Insects With ISOTOX Seed Treatment"
—"TAG Fungicide No. 331 for Apple Scab Control"
—"How ORTHO 2,4-D Weed Killers Increase Your GRAIN YIELDS"
—"Cleaner Crops, Cleaner Farms With PENTOX Weed Killers"
—"New SCREW WORM Control" (Ortho 1038)
—"Scab and Brown Rot Control on Fruits" (Micro-Flotox)
—"Kill Many Pests on Vegetables, Field and Orchard Crops With Isotox"
—"Grow More Top Quality Cotton"
—"Cotton Defoliation Pays With ORTHO C-1 Defoliant"

SPENCER CHEMICAL COMPANY
—"How to Get Top Yields of Corn and Wheat, the Staff of Life"
—"Soil Building for Extra Profits" (fertilizing of small grains and legumes)
—"You Can Grow Corn for As Little As 25c a Bushel"
—Ammonium Nitrate Timetable for your state

ROHM & HAAS COMPANY
—"Kathon 2,4-D Weed Killers"
—"Dithane, Organic Fungicide for Bonus Bushels"
—"Dithane, Organic Fungicide for Finer Quality Crops"
—"Rhothane, Synthetic Insecticide for Crop Protection"
—"Prevent Tobacco Blue Mold With Dithane"

DOW CHEMICAL COMPANY
—"Dow DDT Formulations for Agricultural Use"
—"Dowklor (Chlordane) for Agricultural Use"
—"Effective Control of Tough, Stubborn Weeds and Woody Growth"
—"Control of Weeds in Grain, Corn and Flax"
—"Control of Weeds in Interplanted Grain, Dow Selective Weed Killer"
—"DN 289, the New Non-Oil Dormant Spray"
—"'Mike' Sulfur, the Champion Sulfur Fungicide"
—"Ferradow, an Organic Fungicide"
—"Spray Chart for Fruits and Vegetables"
—"Dowfume W40 for Control of Wireworms and Nematodes"
—"Dow Weed Control Digest"
—"Garden Dowfume, Soil Fumigation for the Home Gardener"
—"Stop Fence Post Rot, Dow Wood Preservative (Pentachlorophenol)"
—"Dow 9B Seed Protectant for Cotton and Peanuts"
—"Sure-Set, Plant Growth Control Agent for Earlier Production of Field Grown Tomatoes"
—"Dow Parathion 15 Percent Wettable"
—"Chemical Thinning of Fruit"
—"Dow Sprout Inhibitor Dust"

SHELL CHEMICAL CORP.
—"N Is for Nitrogen" (available for Western states only)
—"Shell Superior Dormant Spray Oils"
—"Shell Resitox D-25 for Insect Control on Bluegrass"
—"Mesquite and Brush Control With 'Shell Weedkiller 50'"
—"Shell Weedkiller 60 Amine"
—"Shell Brushkiller 45"
—"Control of Tobacco Insects with 'Shell Resitoxaphene 60'"
—"European Corn Borer Control with 'Shell Resitox D-25'"
—"How to Compute Spray Dilution"
—"Livestock Pest Control with 'Shell Resitoxaphene 60'"
—"Shell Aldrin" (Compound 118)
—"Shell Aldrin 2 for Control of Cotton Insects"
—"Broccoli and Potato Pest Control With Shell Insecticides"
—"Cotton Insect Control With Shell Insecticides"
—"Shell Early Frost for Defoliating Soybeans"
—"Shell Ammonia Bulletin"
—"Control of Grasshoppers with Aldrin"

JULIUS HYMAN & COMPANY
—"Aldrin for Agricultural Insect Control"
—"Control of Cotton Insects With Aldrin"
—"Control of Grasshoppers with Aldrin"
—"Dieldrin for Agricultural and Public Health Insect Control"

COMMERCIAL SOLVENTS CORP.
—Sample and information on Dilan (new type of insecticide)
—"Benzene Hexachloride"
—"Choline Chloride"

E. I. DU PONT de NEMOURS & COMPANY
—"DuPont Dairy Cattle Spray" (50 Percent Technical Methoxychlor)
—"DuPont Screwworm Smear 220"
—"DuPont Livestock Spray & Dip No. 30"
—"New Help to Fight Flies"
—"Look at the Record—Crops from Treated Seed Pay Best"

CHIPMAN CHEMICAL COMPANY
—"You Can't Argue With Weeds"
—"1951 Chipman Insecticides, Fungicides and Weed Killers"
—"Atlacide, the Safer Chlorate Weed Killer"
—"Weed Control With Chipman 2,4-D Weed Killers"
—"Defoliate Cotton With Shed-A-Leaf"
—"How to Control Johnson Grass and Bermuda Grass"
—"Use of Chipman Toxaphene Dusts and Sprays"
—"More Cotton Per Acre With Chipman Insecticides"
"Seed Protection for Small Grains"

HERCULES POWDER COMPANY
—"Toxaphene for Salt-Marsh Caterpillars"
—"Toxaphene Controls Peanut Insects"
—"Toxaphene Destroys Sugar Beet Webworms"
—"Toxaphene Kills Armyworms"
—"Toxaphene Kills Grasshoppers"
—"Facts About Toxaphene Insecticide"
—"Kill Grasshoppers With Toxaphene"
—"Kill Cotton Insects With Toxaphene"
—(Chart, 13 x 20 in.) Kill Grasshoppers
—"How to Use and Apply Toxaphene"
—"Cotton Insects"

VELSICOL CORPORATION
—Bulletins on Wireworm, Grasshoppers and Alfalfa Weevil Control

S. B. PENICK & COMPANY
—"Ryania" (Insecticide, particularly for European corn borer and sugar cane borer)
—"Something New In Rat Control—DETHMOR" (Containing warfarin)

U. S. INDUSTRIAL CHEMICALS, INC.
—"Controlling Insects on the Dairy Farm"
—"CPR for Truck Farm Insect Control"
—"One Treatment Control of Lice in Beef Cattle"

PITTSBURGH PLATE GLASS CO.
—"How to Use Pittcide"
—"Protective Sanitation With Pittcide"
—"Safeguard Milk Production With Pittcide"

COKE OVEN AMMONIA RESEARCH BUREAU
—"Nitrogen from Coal"

ANIMAL HEALTH

PARKE, DAVIS & COMPANY
—"Farm Sanitation"
—"Nemazene Tablets for Worming Livestock"
—"Nema Worm Capsules for Worming Livestock"
—"Prevention of Blackleg"
—"Blackleg and Malignant Edema"
—"Shipping Fever (Hemorrhagic Septicemia)"
—"Mixed Bacterin Bovine Formula No. 1"

DR. LEGEAR MEDICINE COMPANY
—"Livestock Manual"
—"Poultry Guide"
—"Dog Guide"
—"Veterinary Chart"
—"Culling Chart"
—"Pink-Eye Powder"
—"Tonic Prescriptions"
—"Screw Worm Smear"
—"Weed Killer"
—"Dry Insecticide"
—"Poultry Antiseptic"
—"Poultry Red Caps"
—"Coccidiosis Control"
—"Anti-Pick Salve"
—"Hog Worm Powder"
—"New Louse Powder"
—"Animal and Barn Spray"
—"Dairy Hints"
—"Mastitis Treatment"
—"A-A Poultry Tabs"
—"Plus for Poultry"

When writing advertisers please mention *Better Farming Methods*

They Had Fun At the . . .

4-H Club Congress

By Milton R. Dunk

4-H leaders from California. (l-r): Jack Miner, local leader; Dorothy Duncan, 4-H specialist; Betty Warmuth, home advisor 4-H work; W. Metcalf, extension forester; and Frank Spurrier, 4-H club specialist. California entered national 4-H contests this year for the first time.

This group of Austrian boys and girls attended the club congress. They were accompanied by A. J. Brundage, former Connecticut 4-H club leader. The group left Austria three days before the congress started. Representatives from ten foreign countries attended.

Life at the club congress was not all banquets and entertainments. In small discussion groups such as this one, 4-H delegates, in agree or disagree sessions, discussed the Congress theme, "Better Living for a Better World." Outstanding speakers spoke on world problems at the general session.

● "A WONDERFUL THING—a big thing." That's the way H. S. Cadman, local 4-H club leader for 17 years at Langlois, Ore., responded when I asked him what he thought of the twenty-ninth National 4-H Club Congress, held in Chicago's famed Stevens Hotel, November 26-30.

For the first time all 48 states, Alaska, Hawaii, and Puerto Rico were represented at the congress. California took part in three national contests this year. Farm and Home Electric, Poultry, and Tractor Maintenance. California was off to a good start with two of their 4-H members being named national winners.

While the congress might have seemed like old stuff to the old timers, it was the thrill of a lifetime for 1,400 4-H delegates. State and national winners in 25 different contests were honored at breakfast, luncheons, and dinners.

Club congress visitors had an opportunity to see and hear some of the finest entertainment in the country, including: The Wayne King show, Tony Pastor and his Orchestra, the Harmonicats, and the Malone Sisters.

Dennis Day, star of radio and screen, entertained at the Thos. E. Wilson banquet. Leaders and 4-H'ers were impressed with the personal appearance of: Ted Williams, John Lujack, Babe Didrikson, and Don Stonesifer, nationally known sports celebrities.

While delegates visited the Museum of Science and Industry, the Art Institute, and Museum of Natural History, state leaders held their own sessions. Leaders of these sessions were: C. G. Staver, Colorado, Edna Troth, Indiana, and L. R. Harrill, North Carolina. One of the highlights of the leader meetings was the talk presented by Mrs. Hans Sorenson, local 4-H leader, Erwin, S. Dak., who spoke on "A Community Can Do It."

At one of the delegate sessions, leaders had a chance to hear Harold Stassen, president, University of Pennsylvania, discuss the topic "Better Living Through International Cooperation." At another general assembly, W. Kerr Scott, governor, North Carolina, told 4-H leaders and delegates, "Change with the times, adjust to conditions, and be masters of the situation." Scott, at one time, was a county agent and organized the largest Jersey calf club in the world.

Indian dances by eight boys from the Arapahoe Indian 4-H Club, Arapahoe, Wyo., were presented at the United States Rubber Co., breakfast, honoring the national winners in the 4-H Recreation and Rural Arts Program. The assistant leader of the club is a full-blooded Arapahoe Indian.

MERCK & COMPANY, INC.
—"Sulfaquinoxaline"

MARTIN LABORATORIES
—"The Development of Udder Medication"
—"Mastitis Control" (Reprint of article by Dr. F. E. Martin)
—"Mastics, the Simplest Effective Treatment for Mastitis"

WYETH, INC.
—"Tubex Penicillin Dosage Chart"
—"Prevention and Control of Infectious Mastitis in Cows and Milk Goats"
—"Newcastle Disease Vaccine"

CUTTER LABORATORIES
—"Anthrax"
—"Blackleg and Malignant Edema"
—"Gonadin—Its Influence on Production"
—"Hog Cholera"
—"Red Water"
—"Shipping Fever"
—"Virus Poultry Diseases"

LEDERLE LABORATORIES, INC.
—"Screwworms"
—"Control of Cattle Grubs"
—"Anthrax Control"
—"Control of Hog Cholera"
—"Control of Poultry Diseases"
—"Common Diseases of Livestock"
—"Safeguard Cattle and Sheep With B. H. Bacterin"
—"Udder Lotion"
—"Veticillin for Small and Large Animals"
—"Sulmet for Animals"
—"Colds Pay No Profits"
—"How to Use Sulmet Solution in Fighting Pullorum Disease, Acute Fowl Cholera, Coccidiosis"
—"Aureomycin for Mastitis"
—"Enheptin for Blackhead in Turkeys"

E. R. SQUIBB & SONS
—"Effective Penicillin Treatment of Mastitis Now a Matter of Seconds"
—"Penovoxil Capsules for White Scours"
—"Hormone Therapy and other Treatments of Cystic Ovaries"
—"Follutein Veterinary Squibb"
—"Penicillin Ointment Dispersal Chart"
—"Vionate for Pets"
—"Vionate for Horses"
—"Dairy Herd Breeding Record"

WENE POULTRY LABORATORIES
—"The Wene Four-Point Newcastle and Poultry Health Program"
—"Protect Your Broiler and Egg Profits With Wene Poultry Vaccines"
—"CaponPELS for Tender Poultry Meat and More of It"

ANCHOR SERUM COMPANY
—"Vaccination Simplified"
—"Hemorrhagic Septicemia Bacterin"
—"Anto Hemorrhagic Septicemia Serum"
—"Brucella Abortus Vaccine"
—"Blackleg Bacterin"
—"Safeguard Your Pigs Against Swine Erysipelas"
"Hog Cholera—Detection and Prevention"

VINELAND POULTRY LABORATORIES
—"Science Safeguards Your Flock"
—"Control of Cecal and Intestinal Coccidiosis"
—"Sulfaquinoxaline Feedmix"
—"Tenderettes" (for tenderizing poultry)
—"Hi-Lethol 10"
—"How to Rid Your Farm Home of Rats and Mice With Ratrid" (Made with warfarin)
—"Has She Got Pullorum?"

BREED INFORMATION

AMERICAN HEREFORD ASSOCIATION
—"Recording and Transferring Herefords"
—"Plan and Profit With Herefords"

AMERICAN JERSEY CATTLE CLUB
—"Going Places With Jerseys"
—"Jersey Judging Made Easy"
—"Jersey Milk"

AMERICAN MILKING SHORTHORN SOCIETY
—"Pointers for Prospective Breeders of Milking Shorthorn Cattle"
—"Farm the Dual Way With Milking Shorthorns"
—List of Breeders of Milking Shorthorns

AMERICAN POLLED HEREFORD ASS'N.
—"Polled Hereford Winners"

AMERICAN SHORTHORN BREEDERS' ASS'N.
—"Illustrated Lessons in Shorthorn Judging—Modern Shorthorn Bull and Female"

UNITED DUROC RECORD ASS'N.
—"Model Duroc Boar and Sow—Teaching Aids for FFA and 4-H Members"
—"Duroc Picture Judging Booklet"
—"Why Durocs?"

HOLSTEIN-FRIESIAN ASS'N. OF AMERICA
—"Holstein Facts in Black and White"
—"Condensed History of the Holstein-Friesian Breed"
—"Holstein-Friesian Leaders"
—"The Holstein-Friesian Cow Is the Cow of Yesterday, Today and Tomorrow"
—Colored Pictures of True Type Holstein-Friesian Cow and Bull, Small

BROWN SWISS BREEDERS' ASS'N.
—"Brown Swiss, the Farmer's Cow!"

AMERICAN GUERNSEY CATTLE CLUB
—"Own Guernseys, 1951"
—"Where to Buy Guernseys"

NICHOLS POULTRY FARM, INC.
"Practical Management of Nichols New Hampshires for Hatching Egg Production"

THOMPSON FARMS
—"Complete Analysis and Ingredient Content of Tam Feeds"
—"Hog Feeding Suggestions for Tam Feeds"

AMERICAN CORRIEDALE ASSOCIATION, INC.
—"You Too Will Like Corriedale Sheep"

BUILDINGS

ALUMINUM CO. OF AMERICA
—"Instructions for Applying Corrugated Aluminum Roofing and Siding Sheet"
—"Paint It Bright! Paint It Right!"—"How to Select and Buy Aluminum Paints"
—"Pipelines to Profit"—"Aluminum Pipe in Portable Irrigation Systems"

AMERICAN ZINC INSTITUTE
—"Facts About Galvanized Sheets"
—"Directions for Laying Galvanized Roofing"
—"Use Metallic Zinc Paint to Protect Metal Surfaces"
—"How to Make Galvanized Roofing and Siding Last Longer"
—"Spray Painting Farm Metal Roofs"
—List of Manufacturers of Metallic Zinc Paint
—"Protective Coatings for Weathered Galvanized Sheets"

CELOTEX CORPORATION
—"Ideas for Better Poultry Houses"

ZONOLITE COMPANY
—"The Modern Poultry House"

JAMESWAY
—"How to Save Up to Three Hours a Day"
—"Equipment for Dairy Barns"
—"Equipment for Hog Houses"
—"Equipment for Poultry Houses"

SISALKRAFT COMPANY
—"How to Build Dependable Temporary Silos"
—"Booklet illustrating many protective uses which will save you money"

LIBBEY-OWENS-FORD GLASS COMPANY
—"Improved Farm Building Daylighting"

GEORGIA-PACIFC PLYWOOD & LUMBER CO.
—"Cut Concrete Form Costs with GPX"
—"GPX Plastic-Faced Plywood for Construction"

JOHNS-MANVILLE CORPORATION
—"Flexboard on the Farm"

DOUGLAS FIR PLYWOOD ASS'N.
—"Southern Farm House, Plan F2-S"
—"The Construction and Use of Re-Usable Forms for a Concrete Septic Tank"
—"The Modern Miracle in Wood"
—"Farm Building and Equipment Plans of Plywood Construction"
—"Prefabrication of Hog Structures"
—"Plywood Grain Bin Construction"
—"Modern Plywood Stock Trailer"
—"Money-Making Plans for Builders"
—"Basement Profits for Builders"
—"Twelve New Plans for Low-Cost, Damage-Proof Projects"
—"How to Add an Extra Floor of Comfort to Your Home"
—"Facts About Douglas Fir Plywood"
—"Northern Farm House, Plan F4-N"
—"Prefabrication of Small Poultry Structures"

RUBEROID COMPANY
—"Temporary Grain Bins"
—"How to Give Your Barn Sturdy Sidewalls"

BELSAW MACHINERY COMPANY
—"How To Make Lumber"

REYNOLDS FARM INSTITUTE
—"How to Apply Reynolds Lifetime Aluminum"
—"How to Use Reynolds Aluminum With Conventional Farm Building Plans"

CALIFORNIA REDWOOD ASSOCIATION
—"Economical Farm Structures of Redwood"

AMERICAN TURPENTINE FARMERS ASSOCIATION
—"How To Get The Best Paint Job"

CROPS

MARTIN STEEL PRODUCTS CORP.
—"Hay Is What You Make It"

PFISTER ASSOCIATED GROWERS
—"Corn Guide"
—"World Record Yield Release (224.2 bu./acre)"
—"Germ Protected Seed"

DEKALB AGRICULTURAL ASS'N.
—"Acres of Gold"
—"Corn Cultivation"
—"How Thick Should I Plant"
—"How Deep Should Corn Be Planted?"
—"Don't Judge a Kernel by Its Looks"
—(Chart) Hybrid Seed Corn and How It Is Made

FUNK BROS. SEED COMPANY
—"Great Story of Corn"
—"Corn Guide Catalog"
—"Corn Data Notebook"

NITRAGIN COMPANY
—"Inoculated Legumes for Better Farming"

REYNOLDS METALS COMPANY
—"More Income Per Acre With Portable Sprinkler Irrigation"

ELECTRIFICATION

LYON RURAL ELECTRIC COMPANY
—"Electric Beak Cauterization"
—"Electrification of Fuel Heated Incubators"
—"Plans for Outdoor Electric Brooder"
—"Plans for Indoor 100-Chick and 200-Chick Electric Hovers"
—"Plans for a 100-Egg Glass Incubator"

FARM EQUIPMENT

DEERE & COMPANY
—"Better Farming" (Catalog)
—"Soil Conservation"
—"Hungry Soil"
—"How to Terrace With Moldboard Plows and Disk Tillers"
—"How to Fight Corn Borers"

FOX RIVER TRACTOR COMPANY
—"History of Forage Harvesting"

HAUCK MFG. COMPANY
—"Controlled Flame Destroys Weeds"

AMERICAN MACHINE & METALS, INC.
—"Fan-Pac Dairy Barn Ventilator"
—"Fan-Pac Poultry House Ventilator"

ALLIS-CHALMERS MFG. COMPANY
—"Battle the Borer With Proper Tillage"
—"Making Paydirt Last"

CONTINENTAL STEEL CORPORATION
—"Grassland Farming"
—"Practical Plans for Modern Farm Buildings"
—"Farm Improvement Guide"
—Handy Pocket Record Book

O. W. KROMER COMPANY
—"Three Big Reasons Why Kromer Power Sprayers Do the Job Better" (consumer folder)
—"Kromer All-Purpose Pump" (power take-off and belt-driven)

PEIRSON-MOORE COMPANY
—"Making Every Crop a Sure One With an All-Purpose Farm Drier"
—"Installing and Operating Farm Driers"
—"Making Rich Green Hay With Farm Driers"
—"Avoiding Crop Losses With a Farm Moisture Tester"
—"How to Cure Bright Leaf Tobacco"

SEAMAN MOTORS, INC.
—"Benefits of Rotary Tillage"

MASSEY-HARRIS COMPANY
—"High Quality Forage"
—"Massey-Harris Disc Harrows"
—"Massey-Harris Plows"
—"Massey-Harris Self-Propelled Corn Picker"
—"Massey-Harris Low Gallonage Sprayers"
—"Massey-Harris Manure Spreaders"
—"Marrey-Harris Haying Tools"
—"Better Built Tractors"
—"Massey-Harris Combines"
—"Massey-Harris Goble Heavy Duty Offset Disc Harrows"
—(Wall Chart) Cross-Sectional View, Model 44 Tractor

J. I. CASE COMPANY
Booklets:
—Catalog on Visual Education Materials
—"Water Spreading"
—"Level Farming on Sloping Fields"
—"Win Against Water"
—"Build a Pond"
—"Moldboard Terraces"
—"Strips and Curves"
—"More Food from Fewer Acres"
—"How to Produce High Protein Hay"
—"Handling Manure for Extra Benefits"
—"Advanced Farm Practices"
—"Modern Farm Machines Bring Back the Range"
—"Hydraulic Controls"
Service Charts—24 x 36 inches:
—"Easy Plan for Building Your Own Terrace"
—"Contour Farming Pays in Three Main Ways"
—"The Island System of Terracing"
—"Build a Pond"
—"Strip Cropping Increases Yields"
—"New Life for Your Land"
—"Sectional View Model D Engine"
—"Sectional View Model S Tractor Transmission"
—"Sectional View Model LA Tractor"
—"Operation Principles Four-Cycle Engine"
—"Know Your Carburetor"
—"For Best Power Take-Off Performance"
—"Combine Sectional View—Model A"
—"The Saga of Sawdust Sam" (safety)
—"Community Leaders"
—"Tractor Sectional View Model VA Series Models"
—"Combine Sectional View Model F-2"

HALE FIRE PUMP COMPANY
—"Data on Irrigation Pumps"

NEW IDEA FARM EQUIPMENT
—"Marching Ahead With Corn"
—"New Idea Manure Spreaders"
—"New Idea Hay Tools"
—"New Idea Corn Harvesting Tools"
—"New Idea Elevators"
—"New Idea Farm Wagons"

STOODY COMPANY
—"Stoody Farm Hard-Facing Handbook"

FEED

THE AMERICAN DRY MILK INSTITUTE
—"Dry Skim Milk and Dry Buttermilk-Feed"
—"Dry Skim Milk and Dry Buttermilk in Home Mixed Feeds"

CONSOLIDATED PRODUCTS COMPANY
—"Here Are 40 Golden Acres"
—"Wean Your Calves at 10 Days With the 'Kaff-A System' of Raising Calves"
—"Farm Layout Plans for the 'Semi-Solid System' of Raising Hogs"

HALES & HUNTER COMPANY
—"Growing Broilers on a Business-Like Basis"
—"Red Comb Poultry Feed Program"
—"Pioneer Dairy Feed Program"
—"Pioneer Hog Feed Program"
—"Pioneer Dairy Goat Program"
—"Red Comb Turkey Production Program"

MORTON SALT COMPANY
—"Morton Way—Meat Curing"
—"Free Choice Salt for More Profitable Feeding"
—"Secret of Finest Home Cured Meats"

STANDARD BRANDS, INC.
—"Sunshine and Sun-Cured Hay, How Dependable Are They As Sources of Vitamin D for Livestock"
—"Vitamin D for Four-Footed Animals"
—"How Vitamin D2 Is Measured"
—"Reviews on Vitamin D in Animal Nutrition, No. 1—Dairy Cows"
—"Reviews on Vitamin D in Animal Nutrition, No. 2—Swine"
—"Reviews on Vitamin D in Animal Nutrition, No. 3—Calves"
—"Reviews on Vitamin D in Animal Nutrition, No. 4—Sheep"
(10 copies of each review sent free. Quantities above 10 of any individual review are being made available in lots of 25, or multiples thereof, for $1 for 25 copies, postpaid. Remittance should accompany order.)

STONE MOUNTAIN GRIT COMPANY
—"Why Granite Grit for Poultry?"
—"Save Feed—Get More Eggs"
—"Turkeys Get to Market Faster!"
—"Answer to the Grit Question"

BROWN-FORMAN DISTILLERS CORPORATION
—"Livestock Feed Supplement"

SOILS

SUDBURY LABORATORIES
—"Don't Guess But Test Your Soil"

TENNESSEE CORPORATION
—"Essential Mineral Elements"

TEACHING AIDS

COLGATE-PALMOLIVE-PEET COMPANY
—"Better Quality Milk and Cream Through Proper Utensil Care"

DEVRY CORPORATION
—"Suggested Bibliography on 'The Use of Motion Pictures in Education'"
—"Suggestions for Organizing Student Operators' Club for the Projected Teaching Aids Department"
—"Suggestions for Organizing a Functioning Audio-Visual Teaching Aids Department"
—"Suggestions for Effective Techniques of Utilizing Motion Pictures in the Classroom"

Please send me copies of the following DeKalb Agricultural Ass'n., Inc., educational inserts that have been published in Better Farming Methods.

..... copies of "How to Grow Bigger Corn Yields."

..... copies of "How Hybrid Chicks are Produced."

PLYMOUTH CORDAGE COMPANY
—"Useful Knots and How to Tie Them"
—"How to Put Rope to Work on the Farm"

NATIONAL AGRICULTURAL SUPPLY CO.
—"Farm Sign Catalog"
—"Nasco Catalog for Stockmen, Dairymen and Specialized Farmers"
—"Nasco County Agent Catalog"
—"Nasco Home Economics and Home Demonstration Catalog"
—"Nasco Vo-Ag Catalog" (New Nasco catalogs are mailed to vo-ag instructors on state lists in July of each year. Home Ec catalogs are mailed in January and County Agent catalogs in October)

ROCKWELL MFG. COMPANY
—"How to Plan a School Workshop"

YOUR FARM MAGAZINE
—Sample copy of "Your Farm" magazine

SUNBEAM CORPORATION
—"Methods and Benefits of Clipping Dairy Cattle"
—"How to Harvest the Farm Flock Wool Crop"
—"Tips on Sheep Shearing"
—(Wall Chart) Self-Teaching Sunbeam Stewart Chart, showing the Australian or Western Method of Shearing Sheep

HY-LINE POULTRY FARMS
—New Catalog of Hy-Line Chicks
—"How Hy-Line Chicks Are Bred"

RADIO CORP. OF AMERICA
—"Information on the RCA 400 Sound Projectors"

SEEDBURO EQUIPMENT COMPANY
—Catalog on Grain and Seed Treating, Grading and Handling Equipment

NATIONAL FARM BOOK COMPANY
—Catalog of Selected Books on Farming

DA-LITE SCREEN COMPANY
—"Planning for Effective Projection"

BELL & HOWELL
—Catalog on 16 mm. Projectors and Other Visual Aids Equipment

THE FAIR PUBLISHING HOUSE
—Catalog No. 70, "Fair Ribbons and Supplies"
—Catalog No. 70, "Supplement 1951 Items and Prices"

TOOLS

BOSTROM-BRADY MFG. COMPANY
—"Farm Levels and Direction Booklet" (for use in terracing, irrigation, drainage, etc.)

COLUMBIAN VISE & MFG. COMPANY
—"Vises" (showing different models for various types of work)

STANLEY TOOLS
—"Stanley Steel Square Booklet"
—Tool catalog, pocket-size (lists hand tools for farm shops and helpful tables and charts)

HENRY DISSTON & SONS, INC.
—"Disston Chain Saws"
—"How to Cut Costs and Make Money With Chain Saws"

NICHOLSON FILE COMPANY
—"File Filosophy"
(A 42 page booklet concerning the selection and use of many hand steel files and rasps.)

WATER SYSTEMS

MARLOW PUMPS
—"Self Priming Pumps for Farm and Irrigation"

★

A hillbilly, back from the war, was sitting in the village store one day when a traveling salesman asked what he thought about military life.

"I liked the drinkin', card-playin' and the wimmin right well," he replied, "but the fightin' was plum dangerous."

CHECK YOUR SUPPLIES

then check with

SEEDBURO

- ☐ GERMINATORS
- ☐ MOISTURE TESTERS for grain and seed
- ☐ SOIL TESTING KITS
- ☐ SOIL AUGERS
- ☐ SEED MOUNTS
- ☐ SEED TRIERS
- ☐ MAGNIFIERS
- ☐ FORCEPS
- ☐ INVERTED GLASS JARS
- ☐ GRAIN GRADING EQUIPMENT

It pays to check with Seedburo first, *America's largest supplier of grain and seed testing, grading and handling equipment.* With one order from a single source you can obtain the merchandise you need ... quickly. More than 500 *high quality fully guaranteed* items are available. And, to help you solve any special problem, our trained, experienced staff is at your service. Remember, there's only one *Seedburo.*

DID WE SKIP YOU?

If you have not yet received your free copy of the SEEDBURO catalog, fill in this coupon and drop it in the mail.

SEEDBURO EQUIPMENT COMPANY
758 Converse Bldg., Chicago 6, Illinois

Please send me your free catalog.

Name .....

Address .....

City ..... State .....

For What It's Worth

By HERBERT L. SCHALLER, Editor

He came to her desk with quivering lip,
The lesson was done.
"Have you a new leaf for me, dear Teacher?
I spoiled this one!"
She took the leaf, all soiled and blotted
And gave him a new one, all unspotted,
Then, into his tired heart she smiled:
"Do better now, my child!"

I went to the throne with trembling heart,
The year was done.
"Have you a New Year for me, dear Master?
I have spoiled this one!"
He took my year, all spoiled and blotted
And gave me a new one, all unspotted,
Then said, as I changed from grief to joy:
"Do better now, my boy!"

★ ★ ★

May Your New Year Be Prosperous

Our Second Ag Chem Issue

Chemicals will play an important role in agriculture during 1951. With America striving to increase agricultural production next year and faced with a growing labor shortage, the use of chemicals in farming will take on even greater significance.

It is appropriate to try and bring together between the covers of one magazine timely articles, charts, and pictures to emphasize the growing importance of chemicals in agriculture.

It is difficult for ag leaders to keep abreast of the newly developed insecticides, rodenticides, fungicides, and other chemicals used by farmers.

New uses are discovered almost every day. Each new use serves the farmer and aids him in combatting natural enemies seeking to damage and destroy his crops. It also means that each ag leader must keep abreast of such new developments in order to be of maximum help to farmers.

This chemical issue is an attempt to bring timely information concerning the use of chemicals in agriculture before ag leaders.

Standing on the threshold of 1951, it would be well to urge farmers to do two things.

First, buy their fertilizer needs now. Increased war production may cut into available fertilizer supplies. Buy now, store properly, and have it when it is needed.

Second, farmers should determine their insecticide needs and purchase such supplies now. This may save considerable loss in crop yields, since war production may reduce the amount of insecticides available for agricultural use.

There'll Be Some Changes!

The February issue of Better Farming Methods will look different. In appearance and make-up, it will be different.

You will be able to start an article and finish reading it on successive pages. All continued lines will be eliminated.

In addition to being able to read an article without jumping a number of pages to finish it, this type of make-up will present another visible difference.

There will no longer be a concentrated feature section at the beginning of the magazine. Since each feature will be completed before going to the next, this will distribute feature stories throughout the entire magazine.

Here is what I would like you to do. After the February issue has arrived and you have had an opportunity to review it, drop me a line. Tell me just how you like the appearance. If you don't like it, say so.

I believe that ag leaders will like this type of arrangement.

Would you do me this favor by taking time to comment on the February issue? If you like this style, it will be continued in the future.

HLSchaller

When writing advertisers please mention *Better Farming Methods*

Boy AND TOYS *Today!*

MAN AND MACHINES

Tomorrow!

This little fellow says emphatically . . . "*These are My Toys*" . . . It's natural for him to say this, and he's the capitalist of tomorrow . . .

He may decide to be tomorrow's farmer *or* clerk *or* business executive *or* mechanic *or* scientist or almost anything he wants to be. But that's not the most important thought right now . . . THIS IS . .

He can be the capitalist of tomorrow because our *competitive enterprise* system says he will be free to work where and when he will, to save, to invest, to spend. He will choose his work for his own particular kind of satisfaction. He will save for his own self-interest, but that helps everybody. He may invest to his own advantage and that makes work for others. For there is now, *and must continue to be,* incentive! An incentive that is *realistic* . . . that *creates* . . . that helps produce more.

We at Minneapolis-Moline hope to do business with this young American. We hope to help him grow . . . and in turn his growth will help our growth . . . and our growth will again create more and better opportunities for more people.

This is the chain reaction of good living that the *competitive incentive* system brings out . . . And our *competitive enterprise* system is the *incentive system* . . . the American way . . . where ability and the willingness to work and to produce, still earn a deserved dividend . . . where competition stirs everyone to do his level best.

The world has never known a better system or plan of progress for all mankind.

Let's guard this way of life . . . our American Heritage. It's been mighty good to a lot of people —and if we take care of it, *the best is yet to come.* The most important thing about America is that it is the land of hope, of promise, and of progress for our children.

Our part in the American parade of progress is the manufacture of a complete line of Modern Farm Machines, Visionlined Tractors and Power Units for modern farming and industry.

Sold and Serviced by MM Dealers and Distributors Everywhere

MINNEAPOLIS-MOLINE
MODERN MACHINERY

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

..IT'S HERE

THE BETTER GRASS SILAGE HARVESTER

THE New Fox Forage Harvester with a 5 ft. mower bar is the pioneer grass silage harvester. It makes perfect grass silage from any standing hay crop. Will work equally as well in light or heavy stands and leaves the field clean in one operation. The new Fox grass silage harvester does an amazingly fine job of harvesting heavy stands of mixed crops such as soya beans and cane or sudan grass. Kudzu growers have wonderful success with the new Fox.

• • •

Owing to the serious steel situation, we would suggest that you anticipate your needs for next spring and order immediately.

The **NEW**

FOX

Forage Master

WITH THE

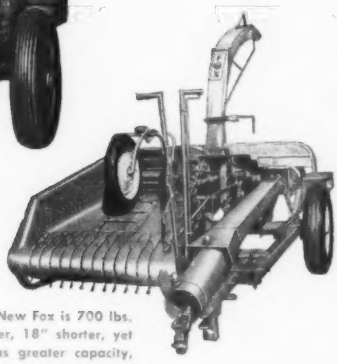
QUICK CHANGE

Harvesting Units

Can be changed to Pick-Up Hay Cutter, Grass Silage Harvester or Corn Silage Harvester in less than 10 minutes.

The pioneer grass silage harvester with 5 ft. mower bar and individual power unit.

Below: The 548 with power take-off drive and corn harvesting unit.



The New Fox is 700 lbs. lighter, 18" shorter, yet it has greater capacity, greater strength and many new features.

FREE! WRITE TODAY FOR NEW CATALOG

FOX RIVER TRACTOR COMPANY

The Pioneer of Modern Forage Harvesting

2515I North Rankin Street

APPLETON **FOX** WISCONSIN

When writing advertisers please mention *Better Farming Methods*